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NASA TMX-64055

GP-785

November 17, 1969

N70-16906



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APOLLO 10


WATER SERVICING

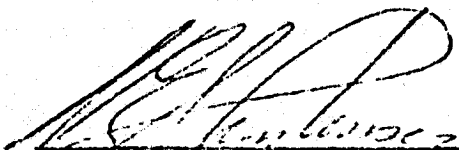
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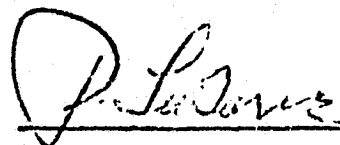
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APOLLO 10
WATER SERVICING

PREPARED BY
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APOLLO 10 WATER SERVICING

PURPOSE

THIS REPORT IS A COMPLETE DOCUMENTATION OF THE WATER SERVICING FOR APOLLO 10 AS WELL AS A REVIEW AND DISCUSSION OF TROUBLE AREAS. ALTHOUGH SOME OF THE PROBLEMS WERE SOLVED IMMEDIATELY AND OTHERS ARE CURRENTLY BEING WORKED ON, THEY ARE INCLUDED IN THIS REPORT FOR DOCUMENTATION PURPOSES.

SCOPE

THIS WORK COVERS A PERIOD EXTENDING FROM OCTOBER 22, 1968 TO MAY 17, 1969.

OCTOBER 22 TO DECEMBER 28, 1968 - LM-4 CHAMBER TESTS

JANUARY 7 TO JANUARY 17, 1969 - CM-106 CHAMBER TESTS

APRIL 25 TO MAY 17, 1969 - LM & CM LAUNCH COUNTDOWN

THE SCOPE OF WATER SERVICING INCLUDES THE VERIFICATION OF FACILITY DEMINERALIZED WATER, GROUND SUPPORT EQUIPMENT WATER UNITS, LUNAR MODULE (LM), COMMAND MODULE (CM) SPACECRAFTS, PORTABLE LIFE SUPPORT SYSTEM (PLSS), LIQUID COOLING GARMENT (LCG), SUIT WICK WETTING UNITS AND STERILIZATION OF WATER DISPENSERS (WD).

VERIFICATION OF THESE SYSTEMS REQUIRES CHEMICAL, MICROBIOLOGICAL AND PARTICULATE ANALYSIS. ALL ANALYSES WERE PERFORMED BY ENVIRONMENTAL HEALTH ENGINEERING (EHE) IN THE ENVIRONMENTAL HEALTH LABORATORY LOCATED IN THE OCCUPATIONAL HEALTH FACILITY.

ANALYSIS

THE SPACECRAFT WATER SYSTEMS WERE ANALYZED TO PF-SPEC-1 OR THE LATEST REVISION, PF-SPEC-1A DATED FEBRUARY 28, 1969. THE PLSS AND LCG WERE VERIFIED BY MSC-C-27 AND THE SUIT WICK WETTER WATER WAS ANALYZED TO MSC-C20A FOR DISTILLED WATER. THE WATER DISPENSER WAS STERILIZED BY CLEANING PROCEDURE CSD-A-872, REVISION A.

COLLECTION OF SAMPLES WAS CARRIED OUT BY EHE PERSONNEL IN ALL INSTANCES AND RETURNED TO THE LABORATORY FOR ANALYSIS EXCEPT FOR PH, ELECTRICAL CONDUCTIVITY, IODINE AND CHLORINE DETERMINATIONS WHICH WERE PERFORMED AND REPORTED ON SITE.

SAMPLES WERE COLLECTED BY MEANS OF COMBINATION OF EHE EQUIPMENT, CONTAINERS AND SPECIAL CONTAINERS FURNISHED BY MSC CALLED APOLLO WATER SAMPLING DEVICES (AWS D).

FOR DETAILS OF TYPES OF SAMPLES COLLECTED AND SAMPLE VOLUMES, SEE TABLE I. THE IONIC SPECIES DETERMINATIONS WERE PERFORMED BY ATOMIC ABSORPTION.

THE SAMPLES SENT TO MSC FOR ANALYSIS WERE TAKEN ONLY FROM THE SPACECRAFTS' POTABLE WATER SYSTEMS. THESE SAMPLES WERE COLLECTED IN THE AWSO AND SUBSEQUENTLY SPLIT IN THE LABORATORY. ONE-HALF WAS RETAINED AT KSC FOR ANALYSIS. THE SECOND HALF WAS SHIPPED VIA AIR FREIGHT TO MSC.

RESULTS

RESULTS WERE REPORTED IMMEDIATELY IN THE CASE OF ON-SITE ANALYSES AND WITHIN TWENTY-FOUR HOURS BY PHONE ON ALL OTHERS WITH THE WRITTEN REPORT PUBLISHED AFTER THE FINAL RESULTS WERE OBTAINED ON THE BACTERIAL SAMPLES. ANY RESULTS WHICH DEVIATED FROM NORMAL WERE REPORTED TO THE APPROPRIATE TEST CONDUCTOR AND MEDICAL PERSONNEL AS SOON AS THEY WERE AVAILABLE.

DISCUSSION

MANY OF THE PROBLEMS WHICH OCCURRED DURING THE CHAMBER TESTS HAVE SINCE BEEN RESOLVED; NEVERTHELESS, THE FOLLOWING RECAPITULATION IS PRESENTED FOR CONTINUITY. LM-4 WAS THE SECOND LM TO BE SERVICED WITH WATER AT KSC AND THE LAST TO HAVE IODINE IN THE WATER DURING CHAMBER TESTS. AS DEPICTED BY THE ATTACHED REPORTS, A CONSIDERABLE AMOUNT OF ENGINEERING EVALUATION OF SYSTEMS AND PROCEDURES WAS PERFORMED DURING THESE CHAMBER TESTS.

THE REQUIREMENT FOR STERILIZATION OF THE WATER DISPENSER HAD BEEN INITIATED BY THIS TIME. THIS STERILIZATION TECHNIQUE HAS INDICATED THAT THE BACTERIAL FILTERS USED WITH THE WATER DISPENSERS REQUIRE AUTOCLAVING FOR PRE-STERILIZATION.

THE LAUNCH COUNTDOWN WATER SERVICING EXTENDED FROM APRIL 24 TO MAY 17, 1969, WITH THE MAJORITY OF THE WORK COMPLETED IN THE TEN DAYS DIRECTLY BEFORE LAUNCH. IN THE ENTIRE LAUNCH COUNTDOWN WATER SERVICING PROGRAM THE WATER QUALITY WAS SUCH THAT ONLY TWO REPEAT SAMPLINGS WERE NECESSARY. ONE ADDITIONAL SAMPLE FROM LM FINAL FILL FAILED DUE TO CONTAMINATED CONTAINERS AS RECEIVED FROM MSC. THIS PROBLEM WILL BE DISCUSSED LATER IN TROUBLE AREAS.

THE INJECTION OF THE BACTERICIDE (IODINE FOR LM AND CHLORINE FOR CM) HAS AT THIS POINT IN TIME BECOME A ROUTINE PROCEDURE WITH EACH SPACECRAFT'S GSE BEING SERVICED IN $1\frac{1}{2}$ HOURS. DUE TO THE EARLY IODIZING OF THE LM/GSE, THE CONCENTRATION AT TIME OF USE WAS TOO LOW AND HAD TO BE RAISED TO AN ACCEPTABLE LEVEL.

THE LOADING PROCEDURE FOR THE CM WAS HANDLED DIFFERENTLY FOR THIS LAUNCH. THE GSE WAS LEFT CONNECTED TO THE SPACECRAFT UNTIL THE T-24 HOURS SAMPLE WAS TAKEN SO THE POTABLE WATER TANK COULD BE "TOPPED OFF" FOR LAUNCH AT 100% CAPACITY. THIS METHOD WAS DIFFERENT, IN THAT AT THIS POINT THE FUEL CELL WATER IS USUALLY THE FLIGHT WATER. THIS CHANGE RESULTED IN EXCEPTIONALLY HIGH PURITY WATER WITH A LACK OF YELLOW PARTICLES WHICH HAD PLAGUED PAST CM SPACECRAFTS.

THE CHANGE TO A CONTINUOUS-FLOW WATER DISPENSER IN THE CM, IDENTICAL TO THAT USED IN THE LM, GREATLY FACILITATED THE SAMPLE COLLECTION. ALONG WITH THE CONTINUOUS-FLOW DISPENSER THERE WAS PROVIDED A NEW FLEX HOSE WHICH ELIMINATED THE BITTER TASTE WHICH HAD BEEN DETECTED IN THE FIRST FEW SQUIRTS OF WATER EACH TIME AFTER INTERVALS OF STORAGE.

IN GENERAL, THE SERVICING WENT VERY WELL WITH BOTH SPACECRAFTS LAUNCHED WITH EXCEPTIONALLY PURE WATER. THIS HIGH QUALITY WAS ACHIEVED EVEN THOUGH IN THIS PARTICULAR LAUNCH THERE WERE MULTIPLE CONCURRENT SYSTEMS TO BE SERVICED (I.E., CM, LM, TWO PLSS'S, TWO LCG'S AND TWO SUIT WETTER UNITS).

THE PROFICIENCY OF THE KSC CONTRACTOR PERSONNEL TO SERVICE FLIGHT GEAR WITH HIGH PURITY WATER IS OBVIOUS FROM THE NOTICEABLE LACK OF RESAMPLES AND FAILURES.

TROUBLE AREAS AND RECOMMENDATIONS

THE MAJOR TROUBLE AREA OF THIS LAUNCH WAS THE APOLLO WATER SAMPLE DEVICES (AWS D). THESE CONTAINERS WERE RECEIVED ON FRIDAY, MAY 9, 1969, THE DAY BEFORE INITIATION OF THE SPACECRAFT SERVICING, WHICH LEFT LITTLE TIME TO ASSEMBLE OR

VERIFY CLEANLINESS LEVELS. ON SUNDAY NIGHT, MAY 11 1969, THE SAMPLES FROM THE LM-4 WERE COLLECTED IN A CONTAINER WHICH HAD NOT BEEN CHECKED BY EHE AND THE RESULTS WERE FAILING IN TWO ITEMS--PH AND TOTAL SOLIDS. WHEN THESE FINAL FILL SAMPLES WERE COLLECTED IN CERTIFIED CLEAN BOTTLES AT T-4 DAYS AND AT T-24 HOURS, THEY MET SPECIFICATIONS. THESE RESULTS WERE INTERPRETED TO MEAN THAT THE ORIGINAL AWSO'S WERE CONTAMINATED. POOR SEALS IN THE LIDS AND VALVES OF THE AWSO'S PRESENTED ADDITIONAL OPERATIONAL PROBLEMS. THE AWSO IS SOMEWHAT AWKWARD TO HANDLE INSIDE THE SPACECRAFT AND RESULTED IN WATER SPILLAGE DURING THE COLLECTION OF THE BACTERIA ANAEROBIC SAMPLE IN THE CM. THE PROBLEMS ON THE AWSO ARE PRESENTLY BEING RESOLVED BY THE MSC PERSONNEL AND ARE MENTIONED IN THIS REPORT FOR INFORMATION ONLY.

THE EARLY SERVICING WITH IODINE IN THE GSE FOR LM SEEMS TO BE A WASTED EFFORT SINCE THE IODINE INJECTION HAD TO BE REPEATED TWO WEEKS LATER WHEN IT WAS READY FOR USE. IT IS RECOMMENDED THAT THE IODINE INJECTION BE PERFORMED CLOSER TO LAUNCH.

THERE ALSO SEEMS TO BE SOME MISUNDERSTANDING AMONG THE GRUMMAN PERSONNEL REGARDING REPORTING OF THE ANALYSES. ESTABLISHMENT OF A SINGLE POINT OF CONTACT WITHIN GRUMMAN TO WHOM ALL FINAL REPORTS WOULD BE SENT WOULD GREATLY REDUCE ADMINISTRATIVE PROBLEMS AND ELIMINATE SOURCES OF ERROR.

ADDITIONAL PROBLEMS WERE EXPERIENCED IN THE AREA OF WATER DISPENSER STERILIZATION. IT SEEMS THE ABILITY TO STERILIZE THE DISPENSER BECOMES INCREASINGLY DIFFICULT WITH THE NUMBER OF TIMES IT HAS BEEN CYCLED THROUGH THE PROCEDURE. THE PRESENT PROCEDURE CALLS FOR A STERILIZING SOLUTION OF 25 ± 5 PPM OF IODINE. A CHANGE IS BEING REQUESTED THROUGH THE PROPER CHANNELS TO RAISE THE IODIZING SOLUTION TO 80 ± 20 PPM AND OTHER SIMPLIFICATION STEPS ARE INCLUDED IN THE CHANGE REQUEST WHICH WILL DECREASE THE CURRENT SEVEN HOUR PROCEDURE TIME TO FOUR OR FIVE HOURS.

THERE HAS BEEN A PROBLEM WITH THE 2 MIL ACLAR BAGS WHEN BAGGING THE STERILIZED DISPENSER. AUTOCLAVING CAUSES THE MATERIAL TO BECOME BRITTLE AND DIFFICULT

TO SEAL. PRESENT PLANS ARE CALLING FOR EITHER A CHANGE IN THE MATERIAL OR ELIMINATION OF HE AUTOCLAVING. RECENT WORK NOT PERTAINING TO APOLLO 10 HAS SHOWN THE INCREASED IODINE CONCENTRATION (80 ± 20 PPM) TO BE VERY EFFECTIVE.

SAMPLE VOLUMES FOR KSC AND MSC (2)

TABLE 1

ANALYSIS	TEST POINT ONE FACILITY D.I.	TEST POINT TWO G.S, E. UNIT	TEST POINT THREE C/M		TEST POINT THREE L/M DESCENT TANK
			DRINK GUN	HOT PORT	
ELECTRICAL CONDUCTIVITY	1 - ON SITE	1 - ON SITE	NONE REQUIRED	NONE REQUIRED	NONE REQUIRED
PH	1 - ON SITE	1 - ON SITE	PERFORM FROM TASTE & ODOR VOLUME AT LAB	PERFORM FROM TASTE & ODOR VOLUME AT LAB	PERFORM FROM TASTE & ODOR VOLUME AT LAB
CLARITY	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML
PARTICULATE	NONE REQUIRED	1 - 500 ML	1 - 500 ML	NONE REQUIRED	1 - 500 ML
TOTAL RESIDUE	1 - 1,000 ML	1 - 1,000 ML PERFORMED FROM TASTE & ODOR VOLUME	1 - 500 ML PERFORMED FROM TASTE & ODOR VOLUME	NONE PERFORMED	1 - 500 ML PERFORMED FROM TASTE & ODOR VOLUME
TASTE AND ODOR					
TURBIDITY					
COLOR, TRUE	NONE REQUIRED	2 - 2,000 ML (3)	1 - 2,000 ML (1)	1 - 1,000 ML (1)	1 - 2,000 ML (1), (4)
BACTERICIDE					
IONIC SPECIES					
TOTAL VOLUME	1,500 ML 10 ML (KSC)	2,000 ML (MSC) 3,000 ML 10 ML (KSC)	2,000 ML (KSC) 10 ML 1,000 ML (MSC)	1,000 ML (KSC) 10 ML 500 ML (MSC)	2,000 ML (KSC) 10 ML 1,000 ML (MSC)

NOTES: 1. SAMPLE IS SPLIT FOR SHIPMENT TO MSC.

2. ALL SAMPLES COLLECTED IN SAMPLE CONTAINERS FURNISHED BY MSC, EXCEPT THE PARTICLE SAMPLES.

3. NO SAMPLE IS TAKEN FOR MSC ON L/M CHAMBER RUNS.

4. IODINE CONCENTRATION MUST BE VERIFIED ON-SITE AT SAMPLING TIME.

APPENDIX A

CHRONOLOGY OF APOLLO 10 WATER SERVICING
FOR LAUNCH COUNTDOWN

DATE	HOUR	EHE LOG NO.	ANALYSIS REQUESTED
FRIDAY	4/25/69	(1300)	6904-84 VERIFICATION OF FACILITY DEMINERALIZER 3C LEVEL MSS (GAEC) - TEST POINT ONE
SUNDAY	4/27/69	(1100)	6904-87 ANALYSIS OF GSE - TEST POINT TWO 3C LEVEL MSS - (GAEC)
		(1345)	6904-88 ADDITION OF IODINE TO GSE AND VERIFICATION - (GAEC)
WEDNESDAY	4/29/69	(2300)	6904-98 ANALYSIS OF NEWLY INSTALLED FACILITY DEMINERALIZER (BEN) 4C LEVEL MSS TEST POINT ONE
THURSDAY	5/08/69	(1000)	6905-23 ANALYSIS OF GSE PRECHLORINATION TEST POINT TWO (NR) 4C LEVEL MSS THIS SAMPLE FAILED REQUESTED ANALYSIS
		(1030)	6905-24 ANALYSIS OF IODINE IN GSE (GAEC) (FAILED REQUIREMENTS)
		(1115)	6905-25 ANALYSIS OF APOLLO WATER IN PLSS LIQUID SUPPLY LOOP (H-S)
		(1130)	6905-25 ANALYSIS OF APOLLO WATER IN PLSS THERMAL TRANSPORT LOOP (H-S)
FRIDAY	5/09/69	(1000)	6905-28 ANALYSIS OF GSE PRECHLORINATION TEST POINT TWO (NR) 4C LEVEL - MSS
		(1500)	6905-29 ADDITION OF CHLORINE TO GSE AND VERIFICATION (NR)
SATURDAY	5/10/69	(0645)	6905-31 CHLORINE CONCENTRATION FROM CM
		(1500)	6905-33 ANALYSIS OF GSE POST-CHLORINATION (NR)
SUNDAY	5/11/69	(1000)	6905-34 ADDITION OF IODINE TO GSE (GAEC)
		(1800)	6905-37 IODINE CONCENTRATION FROM LM
		(2100)	6905-38 ANALYSIS OF GSE (POST STERILIZATION) TEST POINT TWO (GAEC)
		(2100)	6905-39 IODINE CONCENTRATION FROM DESCENT TANK DRAINHOSE

DATE		HOUR	EHE LOG NO.	ANALYSIS REQUESTED
		(2300)	6905-40	ANALYSIS OF DESCENT TANK FINAL LOAD - TEST POINT THREE (GAEC)
		(2300)	6905-41	IODINE CONCENTRATION IN ASCENT TANK
MONDAY	5/12/69	(0900)	6905-42	ANALYSIS OF CM FROM DRINK GUN AND HOT PORT FINAL FILL - TEST POINT THREE
		(0900)	6905-43	ANALYSIS OF CM WASTE TANK
WEDNESDAY	5/14/69	(0830)	6905-49	ANALYSIS OF LM T-4 DAY SAMPLE DESCENT TANK
		(1100)	6905-50	ANALYSIS OF CM DRINK GUN AND HOT PORT, T-4 DAYS
THURSDAY	5/15/69		6905-54	ANALYSIS OF APOLLO WATER FROM TRANSPORT WATER LOOP PLSS, #11 (H-S)
			6905-56	ANALYSIS OF APOLLO WATER FROM TRANSPORT WATER LOOP PLSS #11
			6905-58	ANALYSIS OF APOLLO WATER FROM LIQUID COOLING GARMENT #74
		(1900)	6905-59	ANALYSIS OF APOLLO WATER FROM LIQUID COOLING GARMENT #75
FRIDAY	5/16/69		6905-60	ANALYSIS OF APOLLO WATER FROM PLSS FEED WATER LOOP #10
			6905-61	ANALYSIS OF APOLLO WATER FROM PLSS TRANSPORT LOOP #10
		(2100)	6905-63	ANALYSIS OF LM T-24 HOURS, DESCENT TANK
		(2300)	6905-64	ANALYSIS OF CM T-24 HOURS, DRINK GUN AND HOT PORT
SATURDAY	5/17/69	(1500)	6905-65	ANALYSIS OF SUIT WICK WETTER UNIT 534-152 #3



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STORHO--GAEC GAEC-47	Request Date APRIL 25, 1969
	Phone 867-3740
Sample Description FACILITY DEMINERALIZER IN PREPARATION FOR WATER SERVICING OF LM-4	Analysis Requested (Specification Required) PF SPEC-1A TO TEST POINT 1
Location 3C LEVEL, MSS, PAD 30B	

Received by ANDERSON Date 4/25/69 (1300) Log Number 6904-84
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

ELECTRICAL CONDUCTIVITY= 0.11 MICRONHOS/CM @ 25°C

PH = 6.3 @ 25°C

TOTAL RESIDUE = 0.2 MG/LITER

STERILITY: TOTAL BACTERIA = 80,000 ORGANISMS/100 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

CC: ED WRIGHT, LS-ENG-32

Analyst ANDERSON JB Date Completed APRIL 29, 1969
Approved by P. LaTorre Reference Notebook _____
P. LATORRE, HGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

J. STORMO, CAEC
CAEC-47

Request Date

APRIL 27, 1969

Phone

867-9740

Sample Description

ARJELLO POTABLE WATER FROM GROUND
SUPPORT EQUIPMENT FOR LM-4

Analysis Requested (Specification Required)

PF SPEC-1A TO TEST POINT 2

Location

3C LEVEL, NSS, PAD 39B

Received by BUCK, DENERT

Date 4/23/69 (1100)

Log Number 6904-97

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.05 MICROMHOS/CM @ 25°C

PH = 6.2 @ 25°C

TOTAL RESIDUE = 0.4 MG/L

FIXED RESIDUE = UNDER 0.4 MG/L

TASTE AND ODOR = NONE AT THRESHOLD NO. 3 @ 45°C

TURBIDITY = 0.5 UNITS

COLOR, TRUE = UNDER 5 UNITS

PARTICULATE/500 ML

0-10 MICRONS = PASSES

10-25 MICRONS = 325

25-50 MICRONS = 26

50-100 MICRONS = 4

OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.05	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L
MAGNESIUM	EQUALS	0.002	MG/L
POTASSIUM	EQUALS	0.1	MG/L
IODIDE	UNDER	0.01	MG/L
ALUMINUM	RESULTS TO FOLLOW		
SILICA			

STERILITY:

TOTAL BACTERIA = 20,000 COL/100 ML

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED
ANALYSIS.

Analyst BUCK

Date Completed APRIL 29, 1969

Approved by P. LaTorge

Reference Notebook

P. LATORGE, HSC, ENVIRONMENTAL HEALTH ENGINEERING

COPY

K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

Organization, Mail Code

J. STORMO GAEC
GAEC 47

Request Date

APRIL 27, 1969

Phone

7-8740

Sample Description

IODINATED GROUND SUPPORT
EQUIPMENT WATER FOR LM-4

Analysis Requested (Specification Required)

IODINE CONCENTRATION

Location

3C LEVEL, MSS, PAD 39B

Received by BUCK

Date 4/27/69 (1345)

Log Number 6904-88

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

IODINE CONCENTRATION: 30 MG/L

CC: ED WRIGHT, LS-ENG-32
MSC PREVENTIVE MEDICINE DIV., DC-7
MSC CREW SYSTEMS DIV., EC-3
MSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

Analyst BUCK

Date Completed APRIL 28, 1969

Approved by

P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

C. F. Toney
Pendix
IN 1200

Request Date

April 22, 1969

Phone

867-2477

Sample Description

Apollo Potable Water from Newly
Installed Facility Permineralizer Unit

Analysis Requested (Specification Required)

PF SPEC 1 to Test Point 1

Location

Complex 30B - Level 4C

Received by Perery

Date

April 29, 1969 (2300)

Log Number 6904-98

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

pH = 6.0 @ 25°C

Electrical Conductivity = 0.03 Micromho/cm @ 25°C

Total Residue = 0.2 mg/liter

Sterility:

Total Bacteria = 60,000 Colonies/100 ml

Coliform Count = Negative

Yeast & Molds = Negative

Anaerobic Analysis = Negative

cc: LS ENG 32

Analyst

Fuck OB

Date Completed

May 5, 1969

Approved by

[Signature]

Reference Notebook

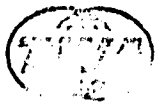
Philip Leforre, Manager - Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code P. Day CSC 71		Request Date Nov 1, 1969	
		Phone 867-3576	
Sample Description 1/11 Initial Exposure CSC 71 / 1 072 Filter / 1 103, Gun / 1 3451		Analysis Requested (Specification Required) CSC 71-072 Port A and 10-CSC-111-34-36	
Location Naval Health Laboratory			
Received by _____ Date Nov 1, 1969 (0800)		Log Number 1005-1	
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____		Emergency _____	
<u>ANALYSIS:</u>			
Final results following sterilization (organisms/100 ml)			
Port A: Negative			
Port B: 4			
Port C: 200			
Port 4-112: Negative			
This sample fails the requested analysis.			
cc: Ed Wright, IS-ENG-32 Don Price, HSC Crew Systems Division (EC-3) HSC Launch Site Medical Operations Branch (EDK) Harry Stewart (EC-11) L. Sauer, Preventive Medicine (EC-7)			
Analyst _____		Date Completed Nov 6, 1969	
Approved by _____		Reference Notebook _____	
Phillip LaTorre, Manager - Environmental Health Engineering			



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester: J. FRESAONTE, GAEC	Request Date: MAY 5, 1969
	Phone: 867-8590
Sample Description: APOLLO POTABLE WATER FROM CSE LM-6	Analysis Requested (Specification Required): PF SPEC-1A TO TEST POINT 2
Location: HS03, CHAMBER R	

Received by: ANDERSON Date: 5/5/69 (1130) Log Number: 6905-10
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

pH = 6.8 @ 25°C
ELECTRICAL CONDUCTIVITY = 0.075 MICROMHOS/CM @ 25°C
TOTAL RESIDUE = 0.5 MG/L
FIXED RESIDUE = UNDER 0.5 MG/L
TASTE AND ODOR = NONE @ THRESHOLD NO. 3
TURBIDITY = 0.2 UNITS
COLOR, TRUE = UNDER 5 UNITS

PARTICULATES:

0-10 MICRONS = PASSED
10-25 MICRONS = 19
25-50 MICRONS = 3
50-100 MICRONS = 1
OVER 100 MICRONS = 0

THIS TEST PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32
MSC CREW SYSTEMS DIVISION (EC311)
MSC LAUNCH SITE MEDICAL OPS. BRANCH (DCK)
MSC PREVENTIVE MEDICINE DIV. (DC-7)

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	UNDER	0.005	MG/L
IODIDE	RESULTS TO FOLLOW		
POTASSIUM	UNDER	0.03	MG/L
SILICA	UNDER	0.5	MG/L
ALUMINUM	RESULTS TO FOLLOW		

STERILITY:

TOTAL BACTERIA = 1500 COL/100ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

Analyst: BUCK, J. Date Completed: MAY 7, 1969
Approved by: P. LATORRE Reference Notebook: _____
P. LATORRE, HGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code	Request Date
R. Day GACC GACC 41	Mar 6, 1969
	Phone
	377-3976
Sample Description	Analysis Requested (Specification Required)
I/M Drink Dispenser Assembly S/N 0002	GSE-A-572 Rev. 1
Location	
ENS Laboratory	

Received by Duck Date Nov 6, 1967 (1967) Log Number 71
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

Final results following sterilization:

Port A: Negative
Port B: Negative
Port C: Negative
Port GN2: Negative

This sample passes the requested analysis.

cc: Ed Wright, LS-ENG-32
Don Price, MSC Crew Systems Div. (EC-3)
MSC Preventive Medicine Div. (EC-7)
MSC Launch Site Medical Operations Branch (EDK)
Harry Stewart (LCK-11)

Analyst Paul J. [illegible] Date Completed Nov 12, 1968
125/po
 Approved by [illegible] Reference Notebook [illegible]

Philip LaTorre, Manager - Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code D. MOHRER, NAR ZK-85	Request Date May 8, 1969
	Phone 867-5182
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT OF S/C 106 PRECHLORINATION	Analysis Requested (Specification Required) PF SPEC-1A TO TEST POINT 2
Location MSS AC LEVEL	

Received by ANDERSON Date 5-8-69 (1000) Log Number 6905-23
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY: 1.5 MICRONHOS/CM @ 25°C

THIS SAMPLE FAILS THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32

Analyst BUCK BB Date Completed MAY 9, 1969
Approved by P. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STORMO, GAEC GAEC-47	Request Date MAY 8, 1969
	Phone 867-8740
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) PF SPEC-1A FOR IODINE CONCENTRATION
Location MSS 3C LEVEL	

Received by ANDERSON Date 5/8/69 (1030) Log Number 6905-24
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

IODINE = 10 MC/L

cc: ED WRIGHT, LS-ENG-32

Analyst Duck Date Completed MAY 9, 1969
Approved by P. Latorre Reference Notebook _____
P. LATORRE, HGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Storno, CSEC CSEC-47	Request Date May 8, 1969
Sample Description APOLLO WATER FROM CSE TO VERIFY IODINE CONCENTRATION FROM 4-27-69	Phone 867-0740
Location PAD B, HSS, LEVEL 37	Analysis Requested (Specification Required) IODINE CONCENTRATION

Received by THOMPSON Date 5-8-69 (1969) Log Number 0045-4
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

IODINE = 10 MC/L

CC: ED WRIGHT, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION - DC-7
HSC CREW SYSTEMS DIVISION - EC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH - DDK

Analyst BUCK Date Completed May 12, 1969
Approved by P. LaForte Reference Notebook
P. LaForte, RGE., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date MAY 8, 1969
Sample Description HIGH PURITY WATER FROM LIQUID SUPPLY LOOP	Phone 867-4300
Location ECS BUILDING	Analysis Requested (Specification Required) HSC-SPEC-C-27 AMENDMENT 1

Received by GENEY Date 5/8/69 (1115) Log Number C-101-25
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

ELECTRICAL CONDUCTIVITY - 0.4 MICROMHOS/CM AT 25°C

TOTAL RESIDUE - 0.4 MG/L

PARTICULATE/500 ML

0-100 MICRONS = PASSES
100-250 MICRONS = 0
200-250 MICRONS = 0
OVER 250 MICRONS = 0

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst BUCK 13 Date Completed MAY 12, 1969
Approved by P. Latorre Reference Notebook _____
P. LATORRE, HES., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

JEFF ROBERTS
HAMILTON-STANDARD

Request Date

MAY 8, 1967

Phone

867-4900

Sample Description

HIGH PURITY WATER FROM
THERMAL TRANSPORT LOOP

Analysis Requested (Specification Required)

HSC-SPEC-C-27 AMENDMENT 1

Location

ECS BUILDING

Received by GENEY

Date 5/8/69 (1115)

Log Number 0000-25

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

PARTICULATE/500 ML

0-100 MICRONS = PASSES
100-200 MICRONS = 0
200-250 MICRONS = 0
OVER 250 MICRONS = 0

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst

Beck

Date Completed

MAY 12, 1967

Approved by

P. LATOURNE, JR., ENVIRONMENTAL HEALTH ENGINEERING

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code N. Norner, NAF K 26	Request Date May 9, 1969
Sample Description Apollo Potable Water, S/C 106 Apollo 10 Pre-chlorination (Resample)	Analysis Requested (Specification Required) PF SPEC 1A to Test Point 2
Location Fwd 37P, MES - 1C Level	

Received by _____ Date May 10, 1969 (1000) Log Number 1005-2
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

Electrical Conductivity = 0.32 @ 25°C
pH = 6.1 @ 25°C
Total Residue = 0.1 mg/l
Fixed Residue = Under 0.1 mg/l
Taste and Odor = None @ Threshold No. 3
Turbidity = 0.25 Units
Color, True = Under 5 Units
Particulates/500 ml
 0-10 Microns = Passes
 10-25 Microns = 34
 25-50 Microns = 22
 50-100 Microns = 2
 Over 100 Microns = 2

IONIC SPECIES:

Cadmium	under	0.005	mg/l
Chromium	under	0.05	mg/l
Copper	under	0.05	mg/l
Iron	under	0.1	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.01	mg/l
Mercury	under	0.005	mg/l
Nickel	under	0.03	mg/l
Silver	under	0.05	mg/l
Zinc	under	0.03	mg/l
Magnesium	under	0.005	mg/l
Chloride	under	0.05	mg/l
Aluminum	under	0.05	mg/l
Potassium	under	0.02	mg/l
Silica	under	0.5	mg/l

Sterility:

Total Bacteria = 600
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

This report passes the requested analysis.

cc: Ed Wright, LS-ENG-32
KSC Preventive Medicine Division (DC-7)
KSC Crew Systems Division (AC-3)
KSC Launch Site Medical Ops. Branch (EDK)
North American Rockwell, Downey, California

Analyst _____ Date Completed May 11, 1969
Approved by _____ Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code BOB VORNER, NAR 7K-66	Request Date MAY 9, 1969
	Phone 867-5182
Sample Description APOLLO WATER FROM USE AFTER ADDITION OF SODIUM HYPOCHLORITE SOLUTION	Analysis Requested (Specification Required) CHLORINE CONCENTRATION
Location PAD B, H-5, GC LEVEL	

Received by THOMPSON Date 5/9/69 (1969) Log Number 876-20
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

CHLORINE - 0.0 mg/L

cc: Ed Wright, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION - EC-7
HSC CREW SYSTEMS DIVISION - EC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH - 5K

Analyst Boon Date Completed MAY 12, 1969
Approved by P. L. Loring Reference Notebook _____
P. L. LORING, NAR, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

Don Wagner, NAR
7A-36

Request Date

MAY 10, 1969

Phone

867-5102

Sample Description

APOLLO WATER FROM S/C 106
WITH CHLORINE FOR STERILIZATION

Analysis Requested (Specification Required)

CHLORINE CONCENTRATION FROM FOOD
PREPARATION PANEL AND WATER DISPENSER
No. 3450

Location

PAD B, ISS, LEVEL 4C

Received by THOMPSON, DICK

Date 5/15/69 (NAR)

Log Number 645-31

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

CHLORINE CONCENTRATION IN MG/L

TIME	WATER DISPENSER	FOOD PREPARATION PANEL	
		COLD PORT	HOT PORT
0645	6.0	6.0	6.0
0715	6.0	6.0	6.0
0745	6.0	6.0	6.0
0815	6.0	6.0	6.0
0845	6.0	6.0	6.0
0915	6.0	6.0	6.0
0945	6.0	6.0	6.0
1015	6.0	6.0	6.0
1045	6.0	6.0	5.0

cc: Ed Wright, LS-ENG-32

NSC PREVENTIVE MEDICINE DIVISION - JC-7

NSC CREW SYSTEMS DIVISION - JC-3

NSC LAUNCH SITE MEDICAL OPS. BRANCH - DCK

Analyst

DICK

Date Completed

MAY 12, 1969

Approved by

Reference Notebook

P. LATOURE, NAR, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code P. Meyer, WBR 1K 06	Request Date May 10, 1969 Phone 607-5180
Sample Description polluted water, 3/6 106 polluted G3 (Post Chlorination)	Analysis Requested (Specification Required) IF TTX L to Test Point 2
Location Rd 308, WBS - 30 Level	

Received by _____ Date May 10, 1969 (1969) Log Number 607-5180
Priority: Routine _____ (Due Date) A.S.A.P. _____ Emergency _____

ANALYSIS:

Electrical Conductivity = 0.10 @ 25°C
pH = 6.2 @ 25°C
Total Residue = 0.7 mg/l
Fixed Residue = 0.5 mg/l
Taste and Odor = None @ Threshold No. 3
Turbidity = 0.25 Units
Color, True = Under 5 Units
Particulates/500 ml
 0-10 Microns = Passes
 10-25 Microns = 19
 25-50 Microns = 14
 50-100 Microns = 3
 Over 100 Microns = 1

IONIC SPECIES:

Calcium	under	0.005	mg/l
Chloride	under	0.05	mg/l
Copper	under	0.05	mg/l
Iron	under	0.1	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.01	mg/l
Mercury	under	0.003	mg/l
Nickel	under	0.03	mg/l
Silver	under	0.05	mg/l
Zinc	under	0.03	mg/l
Magnesium	under	0.005	mg/l
Chloride	under	0.05	mg/l
Aluminum	under	0.05	mg/l
Potassium	under	0.02	mg/l
Silica	under	0.5	mg/l

Sterility:

Total Bacteria = 1600
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

This report passes the requested analysis.

cc: Ed Wright, IS-DEG-32
NHC Preventive Medicine Division, DC-7
NHC Crew Systems Division, C-3
NHC Launch Site Medical Ops. Branch, EDK
North American Rockwell, Downey, California

Analyst _____ Date Completed May 11, 1969
Approved by _____ Reference Notebook _____
P. L. Meyer, Env., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STANLEY, G-2, LC-37	Request Date May 11, 1969
	Phone 607-5145
Sample Description FOLLOW UP FROM G-2 AFTER ADDITION OF IODINE TO ESTABLISH 25 TO 30 MC/L FOR LTV	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location PAD B, ISS, MC LEVEL	

Received by HOOPER Date 5/11/69 (170) Log Number 6085-58
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE - 27.5 MC/L

cc: ED WRIGHT, LS-ENC-32
HSC PREVENTIVE MEDICINE DIVISION - JC-7
HSC CREW SYSTEMS DIVISION - LC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH - DOK

Analyst JOHN J. Date Completed MAY 12 1969
Approved by P. LATOURE, Hon., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STORIO GAEC 47	Request Date May 11, 1969
	Phone 867-8740
Sample Description APOLLO POTABLE WATER FROM LM-4 APOLLO 10, ASCENT AND DESCENT TANK	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location PAD 303, HSS, 3A LEVEL	

Received by BUCK Date 5/11/69 (1830) Log Number 0-23-87
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE CONCENTRATION IN PPM

TIME	ASCENT TANK	DESCENT TANK
1810	25	25
1825	25	25

cc: ED WRIGHT, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION, DC-7
HSC CREW SYSTEMS DIVISION, DC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH, DOK

Analyst BUCK Date Completed MAY 13, 1969
Approved by [Signature] Reference Notebook _____
P. L. TORRE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Storro, CMC CMC 17	Request Date May 11, 1969
	Phone 867-8710
Sample Description Apollo Potable Water from GSE for IM, Apollo 10 (Post Sterilization)	Analysis Requested (Specification Required) FF SPEC-1A to Test Point 2
Location Pit 32B, ISS - 30 Level	

Received by Anderson Date May 11, 1969 (1500) Log Number 605-31
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

Electrical Conductivity = 0.32 micromhos/cm @ 25°C
pH = 6.0 @ 25°C
Total Residue = 0.1 mg/l
Fixed Residue = Under 0.1 mg/l
Taste and Odor = None - Threshold No. 3
Turbidity = 0.3 Units
Color, True = Under 5 Units
Particulates/500 ml
 0-10 Microns = Passes
 10-25 Microns = 11
 25-50 Microns = 15
 50-100 Microns = 7
 Over 100 Microns = 2

IONIC SPECIES:

Cadmium	under	0.005	mg/l
Chromium	under	0.05	mg/l
Copper	under	0.05	mg/l
Iron	under	0.1	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.01	mg/l
Mercury	under	0.003	mg/l
Nickel	under	0.03	mg/l
Silver	under	0.05	mg/l
Zinc	under	0.03	mg/l
Magnesium	under	0.005	mg/l
Iodide	under	0.1	mg/l
Aluminum	under	0.05	mg/l
Potassium	under	0.05	mg/l
Silica	under	0.5	mg/l

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

This report passes the requested analysis.

cc: Ed Wright, IS-EG-32
MSC Preventive Medicine Division (IC-7)
MSC Crew Systems Division (IC-3)
MSC Launch Site Medical Ops. Branch (DEK)

Analyst Date Completed May 14, 1969
Approved by P. L. Torne Reference Notebook
P. L. Torne, Mr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STANLEY, CSEC 1016-17	Request Date MAY 11, 1969
	Phone 667-0749
Sample Description POLIO POTABLE WATER, DESCENT TANK DRAIN HOSE, 100% POLIO II, SOAK SOLUTION (PRIOR TO DILUTION)	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location PAD 300, MSC	

Received by Date MAY 11, 1969 Log Number
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

IODINE CONCENTRATION IN DESCENT TANK DRAIN HOSE = 25 PPM

cc: Ed Wright, LS-EMG-32
MSC PREVENTIVE MEDICINE DIVISION, DC-7
MSC CREW SYSTEMS DIVISION, EC-3
MSC LAUNCH SITE MEDICAL OPS. BRANCH, DDX

Analyst Date Completed MAY 13, 1969
Approved by Reference Notebook

ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. S. Wright, GSEC GSEC-47	Request Date MAY 11, 1969
	Phone 867-3740
Sample Description 1 GALLON POTABLE WATER DESCRIBED STAGE PLSS LH-1, APOLLO 10	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT 3
Location PAD B, HSS, 5C LEVEL	

Received by FERRESON, HAHAM Date 5/11/69 (2300) Log Number 5005-00
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

PH = 6.4 @ 25°C
TOTAL RESIDUE = 26.6 MG/L
TASTE AND ODOR - NONE @ THRESHOLD ODOR NO. 7
ALKALINITY = 0.5 UNITS
COLOR, TRUE = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS = 302
 10-25 MICRONS = 90
 25-50 MICRONS = 20
 50-100 MICRONS = 6
 100-250 MICRONS = 1

THIS REPORT FAILS THE REQUESTED ANALYSIS
FOR STERILITY, PH AND TOTAL RESIDUE.

NOTE: THE FAILURE OF PH AND TOTAL RESIDUE
WAS THE RESULT OF A CONTAMINATED APOLLO
WATER SAMPLING DEVICE AS RECEIVED FROM HSC.

CC: Ed Wright, LS-ENG-32
HSC PREVENTIVE MEDICINE DIV., DC-7
HSC CREW SYSTEMS DIVISION, EC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	EQUALS	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.003	MG/L
NICKEL	UNDER	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L
MAGNESIUM	UNDER	0.005	MG/L
IODIDE	EQUALS	11	MG/L
ALUMINUM	UNDER	0.05	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
*IODINE	EQUALS	12	MG/L

STERILITY:

TOTAL BACTERIA = 0 COL/100 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST & MOLDS = NEGATIVE

*PERFORMED ON SITE.

Check _____ Date Completed MAY 15, 1969
Approved by _____ Reference Notebook _____
J. LATORE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

J. STOLMO, CPEC
CPEC-47

Request Date

MAY 11, 1969

Phone

857-8740

Sample Description

APOLLO POTABLE WATER, ASCENT STAGE
PLSS, LHA, APOLLO 10, (FOLLOWING
DILUTION)

Analysis Requested (Specification Required)

IODINE CONCENTRATION

Location

PAD 3 D, HSS

Received by DOCK

Date 5/11/69 (2200)

Log Number 0005-41

Priority: Routine _____
(Due Date)

A.S.A.P. _____

Emergency _____

ANALYSIS:

IODINE CONCENTRATION IN ASCENT STAGE PLSS = 12 PPM

cc: ED WRIGHT, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION, DC-7
HSC CREW SYSTEMS DIVISION, EC-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

Analyst DOCK

Date Completed MAY 13, 1969

Approved by P. LaFollette

Reference Notebook _____

P. LaFollette, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code H. CROSBY ZK-95	Request Date May 12, 1969 Phone 067-5102
Sample Description APOLLO POTABLE WATER, S/C 106 APOLLO 10 DRINK CUP - FINAL FILL	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT 3
Location PAD 300, ISS AC LEVEL	

Received by ANDERSON, HANAU Date 5/12/69 (0.000) Log Number 005-32
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

PH = 7.9 @ 25°C
TOTAL RESIDUE = 2.8 mg/L
TASTE AND ODOR = NONE @ THRESHOLD ODOR No. 3
TURBIDITY = 0.3 UNITS
COLOR, TRUE = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 46
 25-50 MICRONS = 13
 50-100 MICRONS = 2
 100-250 MICRONS = 0

**THIS REPORT FAILS THE REQUESTED ANALYSIS
FOR STERILITY.**

cc: Ed Wright, LS-ENG-32
NSC PREVENTIVE MEDICINE DIV., DC-7
NSC CREW SYSTEMS DIVISION, EC-3
NSC LAUNCH SITE MEDICAL OPS. BRANCH, JXK
NORTH AMERICAN ROCKWELL, COMNEY, CALIF.

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.003	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	UNDER	0.035	MG/L
CHLORIDE	EQUALS	0.05	MG/L
FLUORIDE	UNDER	0.05	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
CHLORINE	UNDER	0.1	MG/L

STERILITY:

TOTAL BACTERIA = 300 COL/150 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

Analyst BUCK Date Completed MAY 15, 1969
Approved by _____ Reference Notebook _____
P. LaTOURNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



78.1

Requestor, Organization, Mail Code

H. CROSBY, NAR
2K-35

Request Date

MAY 12, 1969

Phone

867-5182

Sample Description

APOLLO POTABLE WATER, S/C 106, APOLLO 10
FROM HOT PORT AT FINAL FILL

Analysis Requested (Specification Required)

PF SPEC 1A TO TEST POINT 3

Location

PAD 503, HSS, AC LEVEL

Received by W. J. COOK, DISTRICT

Date 5/12/69 (5/13)

Log Number 6705-02

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

pH = 7.9 @ 25°C

TASTE AND ODOR = NONE @ THRESHOLD ODOR No. 3

TURBIDITY = 0.3 UNITS

COLOR, TRUE = UNDER 5 UNITS.

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
*CHLORIDE	UNDER	1.0	MG/L
COPPER	EQUALS	0.1	MG/L
*IRON	UNDER	0.5	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
*MERCURY	UNDER	1.0	MG/L
NICKEL	EQUALS	0.1	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	UNDER	0.005	MG/L
CHLORIDE	EQUALS	0.25	MG/L
ALUMINUM	UNDER	0.05	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
CHLORINE	UNDER	0.1	MG/L

THIS REPORT FAILS THE REQUESTED ANALYSIS
FOR STERILITY.

CCs: Ed Wright, LS-ENG-32

ISC PREVENTIVE MEDICINE DIV., DC-7

ISC CREW SYSTEMS DIVISION, EC-3

ISC LAUNCH SITE MEDICAL OPS. BRANCH, DOR
NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

STERILITY:

TOTAL BACTERIA = 9000 COL/100 ML

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLES = NEGATIVE

*LIMITED SENSITIVITY DUE TO VOLUME OF
SAMPLE.

Analyst BUCK

Date Completed MAY 15, 1969

Approved by

Reference Notebook

P. LAFORCE, NAR, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code U. S. Navy NAF NAF NAF	Request Date May 12, 1969
	Phone 767-5132
Sample Description Sp. 110 Potable Water S/C 100, Sp. 110 10 Waste Tank	Analysis Requested (Specification Required) Chl. Concentration Total Solids Particulate
Location P. 200, 10 Level of USS	

Received by Date May 12, 1969 (0700) Log Number 790-43
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

Chlorine Concentration = Under 0.1 mg/l

Total Solids = 1.2 mg/l

Particulate:

0-10 Microns = Passes
10-25 Microns = 11
25-50 Microns = 10
50-100 Microns = 5
Greater Than 100 = 0

cc: Ed Wright, LS-TG-22

Analyst Date Completed May 13, 1969
Approved by Reference Notebook
P. L. Ferre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Morro, GMEC GMEC 17	Request Date May 13, 1969
Sample Description T-1 Air Apollo Potable Water from U-4 of Apollo 10 Passant Tank	Phone 867-3710
Location Pass 39P - 3A Level of ISS	Analysis Requested (Specification Required) FF SPEC 1A to Test Point 3

Received by J. Morro Date May 14, 1969 (0030) Log Number 867-3710
Priority: Routine A.S.A.P. Emergency
(Due Date)

ANALYSIS:

pH: 6.3 @ 25°C
Electrical Conductivity = 1.9 micromhos/cm @ 25°C
Total Residue = 6.0 mg/l
Taste and Odor: None @ Threshold Odor No. 4
Turbidity = .25 Units
Color, True = 50 Units
Particulate/500 ml
 0-10 Microns = 2,400
 10-25 = 312
 25-50 Microns = 110
 50-100 Microns = 17
 100-250 Microns = 8

IONIC SPECIES:

Cadmium	under	.01	mg/l
Chromium	under	.05	mg/l
Copper	under	.05	mg/l
Iron	under	.1	mg/l
Lead	under	.05	mg/l
Manganese	under	.03	mg/l
Mercury	under	.001	mg/l
Nickel	equals	.03	mg/l
Silver	under	.05	mg/l
Zinc	equals	.03	mg/l
Magnesium	under	.005	mg/l
Iodide	under	.1	mg/l
Aluminum	under	.05	mg/l
Potassium	under	.05	mg/l
Silica	under	.5	mg/l
Iodine	equals	6	mg/l

This report passes the requested analysis.

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, LS-ENG-32
KSC Preventive Medicine Division, EC-7
KSC Crew Systems Division - EC-3
KSC Launch Site Medical Ops. Branch - EPC

Analyst J. Morro Date Completed May 15, 1969
Approved by P. LaFerre, Mgr., Environmental Health Engineering Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code H. Gorshev, NAR 1K 26	Request Date May 13, 1969
Sample Description 3-1 Bar Apollo Potable Water from S/C 106 of Apollo 10, Lot Fort	Analysis Requested (Specification Required) IT SPEC 14 to Test Point 3
Location Pod 3-01 - AC Level of ISS	

Received by _____ Date May 14, 1969 (1100) Log Number 6905-50
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

pH: 6.4 @ 25°C
Conductivity = 1.9
Total Residue = 2.2 mg/l
Taste and Odor = None @ Threshold Odor No. 3
Turbidity = .25 Units
Color, True = Under 5 Units

This report fails the requested
analysis for pH and sterility.

IONIC SPECIES:

Cadmium	under	.01	mg/l
Chromium	under	.05	mg/l
Copper	under	.05	mg/l
Iron	under	.1	mg/l
Lead	under	.05	mg/l
Manganese	under	.03	mg/l
Mercury	under	.003	mg/l
Nickel	equals	.05	mg/l
Silver	under	.05	mg/l
Zinc	under	.03	mg/l
Magnesium	under	.005	mg/l
Chloride	equals	.1	mg/l
Aluminum	under	.05	mg/l
Potassium	under	.05	mg/l
Silica	under	.5	mg/l

Sterility: (Organisms/150 ml)

Total Bacteria = 120,000
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, IS-EXC-32
KSC Preventive Medicine Division, DC-7
KSC Crew Systems Division, IC-3
KSC Launch Site Medical Ops. Branch - 1EK
North American Rockwell, Downey, California

Analyst _____ Date Completed May 16, 1969
Approved by _____ Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering

18.1



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date May 15, 1969
	Phone 867-4009
Sample Description HIGH PURITY WATER, TRANSPORT WATER LOOP PL 12, SERIAL #11	Analysis Requested (Specification Required) MSC-C-27A
Location EGS BUILDING	

Received by McWHIRTER Date _____ Log Number 5905-54
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.22 MICROMHOS @ 25°C

PARTICULATE/500 ML

#1 0-160 MICRONS = 202
160-200 MICRONS = 4
200-250 MICRONS = 1
OVER 250 MICRONS = 2

#2 0-160 MICRONS = 50
160-200 MICRONS = 1
200-250 MICRONS = 0
OVER 250 MICRONS = 2

THIS REPORT FAILS THE REQUESTED ANALYSIS.

Analyst Buck AB Date Completed MAY 15, 1969
Approved by [Signature] Reference Notebook _____
P. E. FORNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date MAY 15, 1969
	Phone 7-4009
Sample Description HIGH PURITY WATER TRANSPORT WATER LOOP PLSS, SERIAL #11	Analysis Requested (Specification Required) MSC-C-27A
Location ECS BUILDING	

Received by McWHIRTER Date _____ Log Number 6905-56
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.22 MICROMHOS @ 25°C

PARTICULATE/500 ML

0-160 MICRONS = 89
160-200 MICRONS = 0
200-250 MICRONS = 0
OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

Analyst Buck AB Date Completed MAY 16, 1969
Approved by P. Latorre Reference Notebook _____
P. LATORRE, Eng., ENVIRONMENTAL HEALTH ENGINEERING

COPY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date 5/15/69
Sample Description HIGH PURITY WATER FROM LCG #75	Phone 867-4009
Location ECS BLDG.	Analysis Requested (Specification Required) MSC-C-27A

Received by GUENTHER Date 5/15/69 (1900) Log Number 6905-59
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

CONDUCTIVITY = 1.5 MICROMHDS/CM @ 25°C

PARTICULATE/500 ML

0-160 MICRONS = UNLIMITED
160-200 MICRONS = 1
200-250 MICRONS = 0
OVER 250 MICRONS = 0

Analyst GUENTHER Date Completed 5/15/69
Approved by P. Latorre Reference Notebook #3
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING

COPY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date 5/15/69
	Phone 867-4009
Sample Description HIGH PURITY WATER FROM LCG #74	Analysis Requested (Specification Required) MSC-C-27A
Location ECS BLDG.	

Received by E. M. GUENTHER Date 5/15/69 Log Number 6905-58
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

CONDUCTIVITY = 2.6 MICROMHOS/CM @ 25°C

PARTICULATE/500 ML

0-160 MICRONS = UNLIMITED
160-200 MICRONS = 2
200-250 MICRONS = 1
OVER 250 MICRONS = 0

Analyst GUENTHER Date Completed 5/15/69
Approved by P. LaTorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



18.1

K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date MAY 16, 1959
	Phone
Sample Description HIGH PURITY WATER FROM PLSS FEED WATER LOOP	Analysis Requested (Specification Required) MSC-C-27A
Location ECS BUILDING	

Received by MCWHIRTER Date 5/16/69 Log Number 6905-50
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.27 MICROMHOS @ 25°C

PARTICULATE/500 ML

0-160 MICRONS = 213
160-200 MICRONS = 1
200-250 MICRONS = 0
OVER 250 MICRONS = 1

THIS REPORT PASSES THE REQUESTED ANALYSIS.

Analyst BUCK Date Completed MAY 16, 1959
Approved by P. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

JEFF ROBERTS
HAMILTON-STANDARD

Request Date

MAY 16, 1969

Phone

7-4009

Sample Description

HIGH PURITY WATER FROM TRANSPORT WATER
LOOP SEZ. #10

Analysis Requested (Specification Required)

MSC-C-27A

Location

ECS BUILDING

Received by McWHISTER

Date 5/16/69

Log Number 5905-21

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.3 MICROMHOS @ 25°C

PARTICULATE/500 ML

0-160 MICRONS = 41

160-200 MICRONS = 0

200-250 MICRONS = 0

OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

Analyst BUCK

Date Completed MAY 16, 1969

Approved by P. J. LaForre

Reference Notebook

LA FORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. STORNO, EHEC EHEC-47	Request Date MAY 16, 1969
	Phone 067-0744
Sample Description TEST ROOMS APOLLO POTABLE WATER FROM LINE OF APOLLO 10, DESCENT TANK	Analysis Requested (Specification Required) IF SPEC 1A TO TEST POINT 3
Location PAD 300, ISS 3A LEVEL	

Received by ROBINSON, LUCK Date 5/17/69 (2100) Log Number 64503
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 5.6 MICROMHOS/CM
PH = 6.0 @ 25°C
TOTAL RESIDUE = 5.0 MG/L
TASTE AND ODOR = NONE - THRESHOLD ODOR NO. 3
TURBIDITY = 0.55 UNITS
COLOR, TRUE = 20 UNITS
PARTICULATE/500 ML

0-10 MICRONS = 5,000
10-25 MICRONS = 421
25-50 MICRONS = 127
50-100 MICRONS = 23
100-250 MICRONS = 5*

*ALL LESS THAN 200 MICRONS

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: Ed Wright, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION, DC-7
HSC CREW SYSTEMS DIVISION, ECL3
HSC LAUNCH SITE MEDICAL OPS. BRANCH, D3X

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.005	MG/L
COPPER	UNDER	0.05	MG/L
IRON	EQUALS	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.0003	MG/L
NICKEL	EQUALS	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
SODIUM	UNDER	0.005	MG/L
IODIDE	EQUALS	1.0	MG/L
ALUMINUM	UNDER	0.05	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
IODINE	EQUALS	2.5	MG/L

STERILITY:

TOTAL BACTERIA = NEGATIVE
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

Analyst LUCK Date Completed MAY 21, 1969
Approved by Y. LAFORCE, JR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Organization, Mail Code H. COUSKEY, III 7A-2	Request Date May 16, 1969 Phone 867-5102
Sample Description T-24 HOUSE, APOLLO POTABLE WATER FROM S/C 115 OF APOLLO 10, 1ST FLY	Analysis Requested (Specification Required) PF SPEC-1A TO TEST POINT 3
Location PAD 34, HSC, 4C LEVEL	

Received by ROBERTSON, DICK Date 5/16/69 (2300) Log Number 025-74
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 1.6 MICROMHOS/CM
PH = 6.3 @ 25°C
TOTAL RESIDUE = 2.0 MG/L
TASTE AND ODOR = NONE @ THRESHOLD ODOR NO. 3
TURBIDITY = 0.40 UNITS
COLOR, TRUE - UNDER 5 UNITS

THIS REPORT FAILS THE REQUESTED ANALYSIS
FOR PH AND STERILITY.

CC: Ed Wright, LS-ENG-32
HSC PREVENTIVE MEDICINE DIVISION, DC-7
HSC CREW SYSTEMS DIVISION, 2C-3
HSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK
NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

IONIC SPECIES:

CALCIUM	UNDER	0.005	MG/L
CHLORIDE	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	EQUALS	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.003	MG/L
NICKEL	EQUALS	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.05	MG/L
MAGNESIUM	EQUALS	0.01	MG/L
CHLORIDE	EQUALS	0.03	MG/L
ALUMINUM	UNDER	0.05	MG/L
POTASSIUM	UNDER	0.03	MG/L
SILICA	UNDER	0.5	MG/L
CHLORINE	UNDER	0.1	MG/L

STERILITY:

TOTAL BACTERIA = 7000 COL/150 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

Analyst DICK Date Completed May 21, 1969
Approved by [Signature] Reference Notebook _____

LATOUR, HON., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code Don Wornen, NR ZK-35	Request Date May 17, 1969
	Phone 867-5182
Sample Description HIGH PURITY WATER FROM SALT WICK METER UNIT SSK-152 #3	Analysis Requested (Specification Required) HSC C-20A FOR DISTILLED WATER
Location HSCB	

Received by DWR Date 5/17/69 (1969) Log Number 100-100
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 1.0 MICROMHOS/CM @ 25°C
PH = 6.0 @ 25°C
TOTAL RESIDUE = 1.7 MG/L
HALIDES = 0.0 MG/L
SURFACE TENSION = 72.00 DYNES/CM @ 20°C
PARTICULATE/500 ML
 10-25 MICRONS = 135
 25-50 MICRONS = 47
 50-100 MICRONS = 2
 100-250 MICRONS = 2
 OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: Ed Wright, LS-ENG-32

Analyst DUCK / 13 Date Completed May 21, 1969
Approved by Reference Notebook

P. L. L. RE, 1200, ENVIRONMENTAL HEALTH ENGINEERING

APPENDIX B

CHRONOLOGY OF APOLLO 10 WATER SERVICING FOR CHAMBER TESTS

<u>LUNAR MODULE</u>	<u>DATE</u>	<u>HOUR</u>	<u>EHE LOG NO.</u>	<u>ANALYSIS REQUESTED</u>
TUESDAY	10/22/68	(1700)	6810-61	ANALYSIS OF GSE PRE-IODINING
		(2200)	6810-62	ADDITION OF IODINE TO GSE
WEDNESDAY	11/06/68		6811-14	VERIFICATION OF IODINE IN GSE
SATURDAY	11/09/68	(0100)	6811-31	ANALYSIS OF IODINE DURING STERILIZING OF ASCENT AND DESCENT TANKS OF LM
		(0130)	6811-32	ANALYSIS OF GSE POST IODINING
		(0200)	6811-33	ADDITION OF IODINE TO GSE FOR FINAL FIL SOLUTION
		(0300)	6811-34	FINAL VERIFICATION OF IODINE IN DESCENT AND ASCENT TANKS, LM, OF STERILIZING SOAK SOLUTION
		(1000)	6811-35	ANALYSIS OF FINAL FILL FROM DESCENT TANK OF LM
		(1000)	6811-36	ANALYSIS OF FINAL FILL FROM ASCENT TANK OF LM
THURSDAY	11/14/68			SEA LEVEL CHAMBER TEST No. 1
TUESDAY	11/19/68			SEA LEVEL CHAMBER TEST No. 2
SATURDAY	11/23/68	(2100)	6811-90	ANALYSIS OF PLSS UNIT
MONDAY	11/25/68			UNMANNED CHAMBER TEST
TUESDAY	11/26/68	(1000)	6811-100	ANALYSIS OF DESCENT TANK T-24 HOURS BEFORE BACKUP CREW CHAMBER TEST
WEDNESDAY	11/27/68			BACKUP CREW CHAMBER TESTS
SATURDAY	11/30/68	(1300)	6811-112	ANALYSIS OF GSE FOR SECOND LOADING OF WATER
MONDAY	12/02/68	(2100)	6812-5	ADDITION OF IODINE IN GSE FOR SECOND LOADING
				UNMANNED CHAMBER TEST RERUN
TUESDAY	12/03/68			MANNED CHAMBER TEST RERUN

DATE	HOUR	EHE LOG NO.	ANALYSIS REQUESTED
WEDNESDAY 12/04/68	(0900)	6812-12	ADDITION OF SECOND LOADING WATER TO DESCENT TANK OF LM
	(1700)	6812-16	ANALYSIS OF PLSS UNIT
THURSDAY 12/05/68			MANNED CHAMBER TEST RERUN
FRIDAY 12/06/68			MANNED CHAMBER TEST RERUN
<u>COMMAND MODULE</u>			
MONDAY 1/06/69			SIMULATED CHAMBER TEST
WEDNESDAY 1/08/69	(0500)	6901-14	ANALYSIS OF GSE FOR FINAL FILL
	(2300)	6901-19	ANALYSIS OF FINAL FILL WATER FROM CM, DRINK GUN AND HOT PORT
THURSDAY 1/09/69	(1100)	6901-21	ANALYSIS OF SUIT WICK WETTER WATER
MONDAY 1/13/69			UNMANNED CHAMBER TEST
TUESDAY 1/14/69			SIMULATED CHAMBER TEST
THURSDAY 1/16/69			PRIME CREW CHAMBER TEST
	(2300)	6901-47	ANALYSIS FROM FUEL CELL
FRIDAY 1/17/69			BACKUP CREW CHAMBER TEST
SATURDAY 1/18/69	(0530)	6901-60	ANALYSIS FROM CM, POST FLIGHT



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE GAEC	Request Date 10/21/68
	Phone 867-8860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT FOR ENGINEERING EVALUATION	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3, PRELIMINARY TESTS ONLY (PH, CONDUCTIVITY AND PAR- TICULATE)
Location ALTITUDE CHAMBER R O&C BUILDING	

Received by WRIGHT, BUCK Date 10/22/68 (1300) Log Number 6810-58
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

PH = 5.4 @ 25°C

ELECTRICAL CONDUCTIVITY = 0.18 MICROMHO/CM @ 25°C

PARTICULATE/500 ML 0-10 MICRONS = PASSING

10-25 MICRONS = 224

25-50 MICRONS = 65

50-100 MICRONS = 11

OVER 100 MICRONS = 2

**THIS SAMPLE FAILS THE REQUIRED PH VALUE AND PARTICULATE. AFTER CHANGING THE
DEMINERALIZING CARTRIDGE IN THE GSE, A NEW SAMPLE WAS COLLECTED. THIS SAMPLE
IS REPORTED ON LOG NO. 6810-61.**

CC: Ed Wright, LS-ENG-32

Analyst A. BUCK Date Completed 10/22/68
Approved by P. LATORRE Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANORTE CAEC	Request Date 22 OCTOBER 68
	Phone 867-0860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT FOR ENGINEERING EVALUATION	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3, PRELIMINARY TEST ONLY (PH, CONDUCTIVITY AND PARTICU- LATE) FULL TEST POINT 3 REPORT TO FOLLOW
Location ALTITUDE CHAMBER R CGC BUILDING	
Received by <u>WRIGHT</u> Date <u>22 Oct 68 (1700)</u> Log Number <u>6810-61</u>	
Priority: Routine _____ A.S.A.P. _____ Emergency _____ (Due Date)	

ANALYSIS:

PH = 6.1 @ 25°C

ELECTRICAL CONDUCTIVITY = 0.17 MICROMHO/CM @ 25°C

PARTICULATE/500 ML = 0 - 10 MICRONS = PASSING

10-25 MICRONS = 112

25-50 MICRONS = 44

50-100 MICRONS = 13

OVER 100 MICRONS = 0

THIS SAMPLE PASSES THE REQUIREMENTS OF THE PRELIMINARY TEST.

cc: Ed Wright, LS-ENG-32

Analyst <u>A. BUCK</u>	Date Completed <u>22 OCTOBER 68</u>
Approved by <u>P. LaTorre</u>	Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING	



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester J. FASSABONTE GAEC	Request Date 21 OCTOBER 1968
	Phone 867-8860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT FOR ENGINEERING EVALUATION	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3 (FULL REPORT)
Location ALTITUDE CHA. R CCC BUILDING	
Received by _____	Date 22 Oct 68 (1700) Log Number 6810-61
Priority: Routine _____ (Due Date) _____	A.S.A.P. _____ Emergency _____

ANALYSIS:

PH = 6.1 @ 25°C
ELECTRICAL CONDUCTIVITY = 0.17 MICRONHO/CM @ 25°C
SURFACE TENSION = 70.8 DYNES/CM @ 20°C
TOTAL SOLIDS = 1.0 MG/L
NONVOLATILE SOLIDS = 1.0 MG/L
TOTAL FILTERABLE SOLIDS = NONE DETECTED
TASTE AND ODOR = NONE @ THRESHOLD NO. OF 3
TURBIDITY = 0.26 UNITS
COLOR, TRUE UNDER 5.0 UNITS
PARTICULATE/500 ML
0-10 MICRONS = PASSING
10-25 MICRONS = 112
25-50 MICRONS = 44
50-100 MICRONS = 13
OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	1.0	MG/L
IRON	UNDER	0.3	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

THIS SAMPLE FAILS FOR SURFACE
TENSION.

CC: ED WRIGHT, LS-ENG-32

BUCK	Date Completed 28 OCTOBER 68
Approved by LATORRE, WGR., ENVIRONMENTAL HEALTH ENGINEERING	Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE GAEC	Request Date 22 OCTOBER 68
	Phone 867-8860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT FOR ENGINEERING EVALUATION	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location ALTITUDE CHAMBER R O&C BUILDING	

Received by A. BUCK Date 22 Oct 68 (2200) Log Number 6810-62
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 21 MC/L

CC: ED WRIGHT, LS-2HG-32

Analyst A. BUCK Date Completed 22 OCTOBER 68
Approved by P. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE CNEC	Request Date 28 OCTOBER 1968
	Phone 867-8860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) IODINE DETERMINATION
Location ALTITUDE CHANGES R CCC BUILDING	

Received by A. BUCK Date 28 OCT 68 (1400) Log Number 6810-76
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 19 MC/L

cc: Ed Wright, LS-ENG-32

Analyst A. BUCK Date Completed 31 OCTOBER 1968
Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANORTE GVEC	Request Date 31 OCTOBER 1968
	Phone 867-3860
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) IODINE DETERMINATION
Location ALTITUDE CHAIRER R OGC BUILDING	

Received by McGAY Date 31 Oct 68 (1000) Log Number 6810-87
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 13 MC/L

CC: Ed Wright, LS-ENG-32

Analyst A. BUCK 18 Date Completed 31 OCTOBER 1968
Approved by *P. Latorre* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

J. Passamonte
GALC

Request Date

11/8/68

Phone

867-8860

Sample Description

apollo water with bactericide for
sterilizing seat, from ascent and
descent tanks of LM-4

Analysis Requested (Specification Required)

Iodine Determination

Location

Altitude Chamber II
CCC Building

Received by Wright

Date 11/9/68 (OJCO)

Log Number 611-31

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

ASCENT TANK

DESCENT TANK

1.

14 mg/l

14 mg/l

2.

14 mg/l

14 mg/l

cc: Ed Wright, LS-ENG-32
NSC Biomedical Specialties Branch (DB3)
NSC Crew Systems Division (EC311)
NSC Launch Site Medical Ops. Branch (PDK)

Analyst

A. Buck 713

Date Completed

11 November 1968

Approved by

C. H. Jones

Reference Notebook

D. L. Harris, Jr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passamonte GMC	Request Date 11/1/68 Phone 067-8860
Sample Description Apollo potable water from Ground Support Equipment	Analysis Requested (Specification Required) PF SPEC-1 to Test Point 3
Location Altitude Chamber II GSC Building	

Received by Quentley Date 11/1/68 (G120) Log Number 6111-32
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

pH = 6.1 @ 25°C
Electrical Conductivity = 0.43 micromho/cm @ 25°C
Surface Tension = 70.2 dynes/cm @ 20°C
Total Solids = 0.4 mg/l
Non-volatile Solids = 0.4 mg/l
Total Filterable Solids = none detected
Taste and Odor = None @ Threshold No. 3
Turbidity = 0.24 units
Color, true = under 5 units
Particulate/500 ml:
0-10 microns = passes
10-25 microns = 229
25-50 microns = 24
50-100 microns = 3
over 100 microns = 0

This report fails only the test for surface tension.

cc: Ed Wright, LS-110-32
MSC Biological Specialties Branch (DB3)
MSC Crew Systems Division (LC311)
MSC Launch Site Medical Ops. Branch (DBK)

IONIC SPECIES:

Cadmium	under	0.01	mg/l
Chromium	under	0.05	mg/l
Copper	under	1.0	mg/l
Iron	under	0.3	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.05	mg/l
Mercury	under	0.005	mg/l
Nickel	under	0.05	mg/l
Silver	under	0.05	mg/l
Zinc	under	5.0	mg/l

Sterility:

Total Bacteria = 52 colonies/
150 ml
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast & Molds = Negative

Analyst P. L. Terra Date Completed 11 November 68
Approved by P. L. Terra Reference Notebook

P. L. Terra, Jr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passalento CSC	Request Date 11/1/68
	Phone 867-4860
Sample Description polio potable water from Ground support equipment for final fill.	Analysis Requested (Specification Required) Determination of iodine concentration after addition of same as specified by CSC engineer.
Location Altitude Chamber H CSC Building	

Received by Cumther Date 11/1/68 (1200) Log Number 6011-33
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

Iodine = 12 mg/l

This report meets the amount of iodine concentration specified by the
CSC engineer.

cc: Ed Wright, LS-41G-32
ISC Biomedical Specialties Branch (DB3)
ISC Crew Systems Division (DC311)
ISC Launch Site Medical Ops. Branch (DDK)

Analyst Duck 113 Date Completed 11 November 1968
Approved by P. LaTerre Reference Notebook _____
P. LaTerre, Mr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passamonte GALC	Request Date 11/7/68
	Phone 667-1860
Sample Description Apollo potable water from LM-4 Ascent and Descent Tanks before dumping of sterilizing soak.	Analysis Requested (Specification Required) Iodine determination
Location Altitude Chamber R O&C Building	

Received by Crew Chief Date 11/7/68 (0300) Log Number 611-34
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

	<u>ASCENT TANK</u>	<u>DESCENT TANK</u>
1.	15 mg/l	15 mg/l
2.	15 mg/l	15 mg/l
3.	15 mg/l	15 mg/l

cc: Ed Wright, LS-ING-32
MSC Biomedical Specialties Branch (DB3)
MSC Crew Systems Division (EC311)
MSC Launch Site Medical Ops. Branch (DDK)

Analyst A. Duck Date Completed 11 November 1968
Approved by [Signature] Reference Notebook _____
P. LaTorre, Env. Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passarito GAGC	Request Date 11/8/68
	Phone 687-1160
Sample Description Apollo potable water from Descent Tank final fill.	Analysis Requested (Specification Required) 1F SEC-1 Test Point 4
Location Altitude Chamber B GAG Building	

Received by TV MS Date 11/8/68 (11:00) Log Number 6811-35
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

pH = 4.5 @ 25°C
total solids = 0.6 mg/l
Non-volatile solids = 0.6 mg/l
Total Filterable Solid = None detected
Taste and Odor = over threshold odor No. 17
Turbidity = 0.24 units
Color, true over 70 units

Iodine Concentration = 13 mg/l

Note: This report fails only for pH,
Taste and Odor and Color

IONIC SPECIES:

Cadmium	under	0.01	mg/l
Chromium	under	0.05	mg/l
Copper	under	1.0	mg/l
Iron	under	0.3	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.05	mg/l
Mercury	under	0.005	mg/l
Nickel	under	0.05	mg/l
Silver	under	0.05	mg/l
Zinc	under	5.0	mg/l

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast & Molds = Negative

cc: Ed Wright, LS-113-32
KSC Microbiological Spec. Branch (DE3)
KSC Crew Systems Division (10311)
KSC Launch Site Medical Ops. Branch (DBK)

----- 11 November 68 -----
Analyst A. Buck Date Completed _____
Approved by P. L. L. L. Reference Notebook _____
P. L. L. L., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

J. Passerotto
GSC

Request Date

11/5/66

Phone

667-3360

Sample Description

Apollo potable water from LM-4
Ascent Tank Cond. Fill.

Analysis Requested (Specification Required)

PF SMC-1 to Test Point 4

Location

Altitude Chamber R
GSC Building

Received by Evans

Date 11/5/66 (1000)

Log Number (G11-36)

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

pH = 4.5 @ 25°C
Total Solids = 2.6 mg/l
Non-volatile Solids = 2.6 mg/l
Total Filterable Solids = none detected
Taste and Odor = none @ Threshold No. 17
Turbidity = 0.24 units
Color, true = over 70 units
Iodine Concentration = 13 mg/l

This report fails only for pH, taste and
odor and color.

cc: Ed Wright, LS-11G-32
RSC Biomedical Specialties Branch (JB3)
RSC Crew Systems Division (C311)
RSC Launch Site Medical Ops. Branch (DBK)

IONIC SPECIES:

Cadmium	under	0.01	mg/l
Chromium	under	0.05	mg/l
Copper	under	1.0	mg/l
Iron	under	0.3	mg/l
Lead	under	0.05	mg/l
Manganese	under	0.05	mg/l
Mercury	under	0.005	mg/l
Nickel	equal	0.06	mg/l
Silver	under	0.05	mg/l
Zinc	under	5.0	mg/l

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast & Molds = Negative

Analyst

A. Buckle

Date Completed

11 November 66

Approved by

P. Laforre

Reference Notebook

P. Laforre, E.H.E., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passaric GALC	Request Date 11/11/68
	Phone 067-8860
Sample Description Apollo potable water from Descent Tank of LM-4	Analysis Requested (Specification Required) Determination of Iodine Particulate, Sterility
Location Altitude Chamber R OEC Building	

Received by Wright Date 11/11/68 (1500) Log Number 6517-41
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

Iodine = 2 mg/l (taken directly, no flushing)

Particulate/500 ml

10-25 microns = 98
25-50 microns = 25
50-100 microns = 6
over 100 microns = 0

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast & Molds = Negative

cc: Ed Wright, IS-ENG-32
MSC Biomedical Specialties Branch (DB3)
MSC Crew Systems Division (LC311)
MSC Launch Site Medical Ops. Branch (DEK)

Analyst A. Dick Date Completed 15 November 68
Approved by P. Labore Reference Notebook _____
P. Labore, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passamonte GALC	Request Date 11/13/68
	Phone 867-8860
Sample Description Apollo potable water from Descent Tank of LM-4	Analysis Requested (Specification Required) Sterility and Iodine Concentration
Location Altitude Chamber R, O2C Building	

Received by Evans, Dick Date 11/13/68 (1300) Log Number 6011-53
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

Iodine = 4.0 mg/l (taken directly, no flushing)
= 10.0 mg/l (taken after flushing 1000 ml)

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast & Mold = Negative

cc: Ed Wright, LS-ENG-32
MSC Biomedical Specialties Branch (DBB)
MSC Crew Systems Division (LC311)
MSC Launch Site Medical Ops. Branch (DBK)

Analyst A. - Dick Date Completed 15 November 68
Approved by P. LaTorre Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Mayo, NASA CREW SYSTEMS ECK 11	Request Date 11/18/63
	Phone 807-0657
Sample Description COMMAND MODULE DRINK GUN SERIAL NO. 2190	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by BUCK Date 11/19/63 (1957) Log Number 6011-53
Priority: Routine _____ A.S.A.P. X Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

A SOLUTION OF 10 MG/L IODINE WAS PASSED THROUGH THE GUN WITH EXIST NOZZLE READINGS RANGING FROM 4.5 TO 6.0 MG/L OF IODINE OVER 1 HOUR AND 40 MINUTE PERIOD. THE GUN WAS THEN FLUSHED WITH STERILE WATER AND A STERILITY SAMPLE COLLECTED.

STERILITY:

TOTAL BACTERIA = 700 COLONIES/150 ML .

COLIFORM COUNT = NEGATIVE

CC: ED WRIGHT, LS-ENG-32

Analyst BUCK-12 Date Completed 27 NOVEMBER 63
Approved by _____ Reference Notebook _____

P. L. TORRES, HON., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passante GMC	Request Date 11/15/68
	Phone 667-6660
Sample Description Bottle water from Lunar Module-4, 1125 Flaming, Descent Tank	Analysis Requested (Specification Required) Iodine Concentration and Sterility
Location Altitude Chamber 2 120 Building	

Received by Wright Date 11/15/68 (13.4) Log Number 011-6
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

Iodine = 5 mg/l (no flushing of line)
= 9.5 mg/l (taken after flushing 1000 ml)

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Aerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, LS-ENG-32
MSC Biomedical Specialties Branch (DEB)
MSC Crew Systems Div. (UC311)
MSC Launch Site Medical Ops. Branch (DEK)

Analyst Back Date Completed 18 November 68
Approved by P. LaForte Reference Notebook
P. LaForte, Jr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Mayo, NASA CREW SYSTEMS ECK 11	Request Date 11/16/68
	Phone 867-8157
Sample Description LUNAR MODULE DRINK GUN SERIAL NO. 3450 WITH FILTER	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by DUCK Date 11/16/68 (1107) Log Number 6311-64
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

A SOLUTION OF 20 MG/L OF IODINE WAS PASSED THROUGH BOTH THE FILTER AND GUN. AFTER TEN MINUTES OF FLOWING, THE EXIST CONCENTRATION OF IODINE WAS 3 MG/L. THE FILTER WAS DISCONNECTED DUE TO ITS LARGE IODINE CONSUMPTION. THE FLOW WAS RE-ESTABLISHED THROUGH THE GUN AND MAINTAINED FOR ONE HOUR WITH AN AVERAGE CONCENTRATION OF 10 MG/L. THE GUN WAS FLUSHED WITH STERILE WATER UNTIL NO IODINE WAS DETECTED.

AT THIS POINT THREE BACTERIAL SAMPLES WERE COLLECTED:

- 1) DRINK GUN (NO FILTER)--
TOTAL BACTERIA = 1 COLONY/100 ML
- 2) DRINK GUN WITH FILTER REINSTALLED--
TOTAL BACTERIA = TOO NUMEROUS TO COUNT
- 3) BACKGROUND STERILE WATER--
TOTAL BACTERIA = NEGATIVE

cc: Ed Wright, LS-ENG-32

Analyst DUCK Date Completed 27 NOVEMBER 68
Approved by P. Latourre Reference Notebook _____
P. LATOURE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. LAYNE, HCSA CREW SYSTEMS ECK 11	Request Date 11/13/68
	Phone 867-8657
Sample Description LODAR MODULE DRINK GUN SERIAL NO. 3100	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by	BUCK	Date	11/13/68 (1150)	Log Number	6011-63
Priority:	Routine	(Due Date)	A.S.A.P.	Emergency	

ANALYSIS:

STERILIZING:

A SOLUTION OF 10 MG/L OF IODINE WAS MONITORED OUT THE NOZZLE OF THE DRINK GUN FOR A 30-MINUTE PERIOD. AT THIS TIME STERILE WATER WAS PUSHED THROUGH THE GUN UNTIL NO IODINE COULD BE DETECTED. A BACTERIAL SAMPLE WAS THEN COLLECTED. THE RESULTS SHOWED 70 COLONIES/150 ML.

cc: Ed Wright, LS-210-32

Analyst	BUCK <i>LB</i>	Date Completed	27 NOVEMBER 68
Approved by	<i>P. Layne</i>	Reference Notebook	

P. LAYNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passalunghi GHE	Request Date 11/16/68
	Phone 667-3865
Sample Description Apollo potable water, 11-1, 11-2 Descent tank through 11-1 fitting	Analysis Requested (Specification Required) Iodine Concentration and Sterility
Location Altitude Chamber 1 HSC Building	

Received by Wright Date 11/16/68 (1300) Log Number 6511-7
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

Iodine = 2 mg/l (no flushing of line)
= 9.0 mg/l (taken after flushing 1000 ml)

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, IS-ENG-32
HEC Biomedical Specialties Branch (DB3)
HEC Crew Systems Division (LC311)
HEC Launch Site Medical Ops. Branch (DM)

Analyst Dick 15 Date Completed 20 November 68
Approved by [Signature] Reference Notebook _____
P. L. Dero, Jr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. Passanente GME	Request Date 11/8/68
	Phone 867-6960
Sample Description Apollo potable water 11-4 from Descent Tank through FLEB fitting	Analysis Requested (Specification Required) Iodine Concentration and Sterility
Location Altitude Chamber R W. D. Building	

Received by Wright Date 11/8/68 (13.0) Log Number 011-79
Priority: Routine _____ (Due Date) A.S.A.P. _____ Emergency _____

ANALYSIS:

Iodine = 3.5 mg/l (no flushing of line)
= 8.0 mg/l (taken after flushing 1000 ml)

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, IS-EE-32
MSC Microbiological Specialties Branch (DB3)
MSC Crew Systems Division (DB11)
MSC Launch Site Medical Ops. Branch (DB1)

Analyst Rich, J. Date Completed 22 November 68
Approved by [Signature] Reference Notebook _____
P. Latorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Mayo, NASA CREW SYSTEMS ECK 11	Request Date 11/29/68
	Phone 867-0657
Sample Description LUNAR MODULE DRINK CUP SERIAL NO. 5183	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by BUCK Date 11/29/68 (1968) Log Number 0311-51
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

A SOLUTION OF 20 MG/L OF IODINE WAS MONITORED AT THE EXIST PORTS OF THE NOZZLE AND FIRE EXTINGUISHER FOR A PERIOD OF TWO HOURS. AT THIS TIME STERILE WATER WAS FLUSHED THROUGH THE CUP UNTIL NO IODINE RESIDUAL COULD BE DETECTED. BACTERIA SAMPLES WERE COLLECTED AND THEN THE CUP WAS BLOWN DRY WITH NITROGEN.

STERILITY:

BEFORE STERILIZING

NOZZLE SAMPLE = 7000 COLONIES/100 ML
FIRE EXTINGUISHER SAMPLE = 25,000
COLONIES/100 ML
BACKGROUND FLUSH WATER = 23 COLONIES/100
ML

AFTER STERILIZING

NOZZLE = 800 COLONIES/100 ML
FIRE EXTINGUISHER = 800 COLONIES/100 ML

cc: ED WRIGHT, LS-ENG-32

Analyst BUCK, B Date Completed 27 NOVEMBER 1968
Approved by P. J. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

R. HAYES, NASA
CPW SYSTEMS
ECK 11

Request Date

11/21/63

Phone

867-3657

Sample Description

MOON MODULE DRINK GUN
SERIAL NO. 3450 WITH FILTER

Analysis Requested (Specification Required)

STERILIZING OF APOLLO WATER DISPENSER

Location

ENVIRONMENTAL HEALTH LABORATORY

Received by

Date

11/21/63 (1200)

Log Number

6311-05

Priority:

Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

STERILIZING:

A SOLUTION OF 12 TO 23 MG/L OF IODINE WAS FLUSHED THROUGH THE FILTER AND GUN FOR A PERIOD OF TWO HOURS WITH EXIST READINGS FROM THE NOZZLE AND FIRE EXTINGUISHER RANGING FROM 9 TO 23 MG/L. THE FILTER AND GUN WERE FLUSHED WITH STERILE WATER UNTIL NO IODINE WAS DETECTABLE. BACTERIA SAMPLES WERE COLLECTED AS FOLLOWS:

STERILITY:

BEFORE STERILIZING

NOZZLE = TOO NUMEROUS
TO COUNT

FIRE EXTINGUISHER = TOO
NUMEROUS TO COUNT

BACKGROUND = NEGATIVE

DURING STERILIZING
(23 MG/L I₂)

NOZZLE = NEGATIVE

AFTER STERILIZING

NOZZLE = 700 COLONIES/100 ML
FIRE EXTINGUISHER = 1700 COLONIES/
100 ML

BACKGROUND = NEGATIVE

cc: Ed Wright, LS-ENG-32

Analyst

BUCK, B

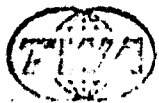
Date Completed

27 NOVEMBER 1963

Approved by

P. LATOURE, HON., ENVIRONMENTAL HEALTH ENGINEERING

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requesting Organization, Mail Code J. P. Kennedy GMO	Request Date 11/17/63 Phone 801-4860
Sample Description Ground water tank with iron content tank through this filtering	Analysis Requested (Specification Required) Iodine Concentration and Sterility
Location Alameda Chamber 2 170 Building	

Received by 11/17/63 Date 11/17/63 (13.1) Log Number 611-10
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

Iodine Concentration = 7.0 mg/l (no flushing of line)
= 8.0 mg/l (taken after flushing 1000 ml)

Sterility:

Total Bacteria = Negative
Coliform Count = Negative
Anaerobic Analysis = Negative
Yeast and Molds = Negative

cc: Ed Wright, IS-HIG-32
HSC Micrological Specialties Branch (LH3)
HSC Core System Division (LH311)
HSC Launch Site Medical Ops. Branch (DDA)

Analyst Ench: 1P Date Completed 24 November 63
Approved by P. Infante, Mgr., Environmental Health Engineering Reference Notebook _____

COPY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date NOVEMBER 23, 1968
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM PLSS UNIT	Analysis Requested (Specification Required) ELECTRICAL CONDUCTIVITY TOTAL SOLIDS
Location ECS BUILDING	

Received by BUCK Date 11/23/68 (2100) Log Number 6811-90
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 1.0 MICROMHOS/CM @ 25°C

TOTAL SOLIDS = 0.4 MG/L

Analyst A. P. BUCK Date Completed NOVEMBER 23, 1968
Approved by P. LaTorre Reference Notebook
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSADONTE CEEC	Request Date 11/26/68
	Phone 807-8880
Sample Description 1 POLLO POTABLE WATER FROM LIT-4 TANK ROOMS BEFORE BACKUP CREW ALTITUDE CHAMBER 100	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4
Location ALTITUDE CHAMBER 10 HSC BUILDING	

Received by WRIGHT Date 11/26/68 (TUES) Log Number 4511-1
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

IODINE = 3.0 MG/L (NO FLUSHING, OUT OF CUB)
= 4.0 MG/L (AFTER FLUSHING, 2000 ML
THROUGH CUB)
= 5.0 MG/L (OUT OF FLEXLINE, CUB
REMOVED)

PH = 4.6 @ 25°C

TOTAL SOLIDS = 1.0 MG/L

NON-VOLATILE SOLIDS = 1.0 MG/L

TOTAL FILTERABLE SOLIDS = NONE DETECTED

TASTE AND COLOR = NONE @ THRESHOLD NO. 3

TURBIDITY = 0.32

COLOR, TRUE = 30 UNITS

PARTICULATE/500 ML

15-25 MICRONS = 146

25-50 MICRONS = 18

50-100 MICRONS = 7

OVER 100 MICRONS = 2

CC: ED WRIGHT, LS-ENG-32

HSC BIOMEDICAL SPECIALTIES BRANCH (DBS)

HSC CREW SYSTEMS DIVISION (EC311)

HSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	1.0	MG/L
IRON	UNDER	0.3	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

STERILITY:

TOTAL BACTERIA = NEGATIVE
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST & MOLDS = NEGATIVE

THIS REPORT FAILS FOR PH AND
COLOR ONLY.

Analyst A. DUCK Date Completed 12/2/68
Approved by [Signature] Reference Notebook
A. LAFORCE, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE, CDEC	Request Date 11/22/68
	Phone 867-8869
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT. REMAINDER OF WATER FROM FINAL SERVICING 11-0-68.	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location ALTITUDE COVERER R, ISO BUILDING	

Received by _____ Date _____ Log Number ENV-117
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 3.5 MC/L

cc: Ed Vraight, LS-ENG-32

Analyst A. JUCKER, B Date Completed 12/2/68
Approved by [Signature] Reference Notebook _____
P. LATOUCHE, HON., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code N. Mayo, HSC CREW SYSTEMS ECN 11	Request Date 11/22/68
	Phone 857-8057
Sample Description LUNAR MODULE DRINK CUP SERIAL NO. 3133	Analysis Requested (Specification Required) STERILIZING OF POLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by UCK Date 11/22/68 (1100) Log Number EC11-100
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR CUP-FILTER ASSEMBLY,
DOCUMENT NO. CSD-A-072, AS MODIFIED BY TPS.

STERILITY:

NOZZLE = NEGATIVE

FIRE EXTINGUISHER = NEGATIVE

NITROGEN PURGE = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (003)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DM)

Analyst DUCK, J. Date Completed 12/5/68
Approved by P. LaForte, HSC, ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSARONTE CAEC	Request Date 11/27/68
	Phone 667-8860
Sample Description 1 POLLO POTABLE WATER FROM LH-4 DESCENT TANK, PLESS FITTING	Analysis Requested (Specification Required) IODINE CONCENTRATION AND STERILITY
Location ALTITUDE CHAMBER R HSC BUILDING	

Received by WRIGHT Date 11/27/68 (1570) Log Number EC11-187
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 1.4 MG/L (NO FLUSHING OF LINE).

3.5 MG/L (AFTER FLUSHING 1000 ML)

STERILITY:

TOTAL BACTERIA = NEGATIVE

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST & MOLDS = NEGATIVE

**CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DBS)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DEK)**

Analyst BUCK Date Completed 12/5/68
Approved by P. LATORNE Reference Notebook _____
P. LATORNE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester Name, Mail Code G. Wyo, NASA CREW SYSTEMS ECK 11	Request Date 11/2/68
Sample Description LUNAR MODULE DRINK CUP SERIAL NO. 0201 WITH FILTER	Phone 857-9657
Location ENVIRONMENTAL HEALTH LABORATORY	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER

Received by DOCK Date 11/2/68 (1000) Log Number 0311-110
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR CUP-FILTER ASSEMBLY,
DOCUMENT NO. CSD-A-072, AS MODIFIED BY TPS.

STERILITY:

NOZZLE = NEGATIVE

FIRE EXTINGUISHER = NEGATIVE

NITROGEN PURGE = NEGATIVE

CC Ed Wright, LS-ENG-32
HSC BIO MEDICAL SPECIALTIES BRANCH (DBS)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DCK)

DUCK FB Date Completed 12/5/68
Approved by [Signature] Reference Notebook _____
P. LATOURE, HSE., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Mayo, LPSS CREW SYSTEMS ECR 11	Request Date 11/24/68
	Phone 867-6657
Sample Description LEAK MODULE WATER CON, SERIAL NO. 2500 WITH FILTER	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by _____ Date 11/24/68 (2068) Log Number 1911-311
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR CON-FILTER /ASSEMBLY,
DOCUMENT NO. CSD-A-872, AS MODIFIED BY TFS.

STERILITY:

NOZZLE = NEGATIVE

FIRE EXTINGUISHED = NEGATIVE

NITROGEN PURGE = NEGATIVE

CC: ED WRIGHT, LS-110-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (JCK)

Analyst BUCK Date Completed 7 DECEMBER 1968
Approved by P. LAFORGE Reference Notebook _____
P. LAFORGE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSARIETE KSC	Request Date 11/30/68 Phone 867-8860
Sample Description APPLICABLE POTABLE WATER FROM GROUND SUPPORT EQUIPMENT FOR L-1 SECOND LOADING	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3
Location ALTITUDE CHAMBER R HSC	

Received by BUCK Date 11/30/68 (1340) Log Number 6311-112
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

PH = 6.5 @ 25°C
ELECTRICAL CONDUCTIVITY = 0.2 MICROMHO/CM @ 25°C
SURFACE TENSION = 71.8 DYNES/CM @ 25°C
TOTAL SOLIDS = 0.2 MG/L
NON-VOLATILE SOLIDS = 0.2 MG/L
TOTAL FILTERABLE SOLIDS = NONE DETECTED
TASTE AND ODOR = NONE @ THRESHOLD NO. 3
TURBIDITY = 0.15 UNITS
COLOR, TRUE = UNDER 5 UNITS
PARTICULATE/500 ML
10-25 MICRONS = 122
25-50 MICRONS = 36
50-100 MICRONS = 15
OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01 MG/L
CHROMIUM	UNDER	0.05 MG/L
COPPER	UNDER	1.0 MG/L
IRON	UNDER	0.3 MG/L
LEAD	UNDER	0.05 MG/L
MANGANESE	UNDER	0.05 MG/L
MERCURY	UNDER	0.015 MG/L
NICKEL	UNDER	0.25 MG/L
SILVER	UNDER	0.05 MG/L
ZINC	UNDER	5.0 MG/L

THIS REPORT FAILS ONLY FOR
SURFACE TENSION.

CC: EG WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (333)
HSC CREW SYSTEMS DIVISION (6311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (LCK)

Analyst BUCK Date Completed 12/6/68
Approved by _____ Reference Notebook _____
P. LATO RE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANOWITZ CNEC	Request Date 11/30/68
	Phone 867-3360
Sample Description 1 GALLON POTABLE WATER FROM GROUND SUPPORT EQUIPMENT AFTER ADDITION OF IODINE	Analysis Requested (Specification Required) IODINE DETERMINATION
Location ALTITUDE CHANGEN L. HOB	

Received by BUCK Date 11/30/68 (1700) Log Number 0311-113
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

CONCENTRATION AFTER ADDITION OF IODINE = 13 MC/L

THIS CONCENTRATION WAS ACCEPTABLE TO THE GRUMMAN ENGINEER.

CC: Ed Wright, LS-ENG-32

Analyst BUCK Date Completed 12/5/68
Approved by P. Latour Reference Notebook _____
P. LATOUR, HEN., ENVIRONMENTAL HEALTH ENGINEERING

COPY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code TOM ROGERS GRUMMAN	Request Date <u>12/2/68</u> Phone <u>7-2945</u>
Sample Description IODINE	Analysis Requested (Specification Required) I ₂ FROM GSE UNIT ALTITUDE CHAMBER R
Location	

Received by J. L. WRIGHT Date 12/2/68 (2100) Log Number 6812-5
 Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

I₂ = 11.5 PPM

Analyst J. L. WRIGHT Date Completed 12/2/68
 Approved by *P. LaTorre* Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANICHT CAEC	Request Date 12/4/68
	Phone 067-8360
Sample Description APOLLO POTABLE WATER FROM DESCENT TANK LINE FROM PLS FITTING	Analysis Requested (Specification Required) IODINE CONCENTRATION AND STERILITY AS PER PF-SPEC-1
Location ALTITUDE CHAMBER R HSC BUILDING	

Received by WRIGHT Date 12/4/68 (2130) Log Number 0312-1
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

IODINE CONCENTRATION = 0.7 ug/L (BEFORE FLUSHING LINE)

0.0 ug/L (AFTER FLUSHING LINE) --(1000 ML)

STERILITY:

TOTAL BACTERIA = NEGATIVE

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLD = NEGATIVE

**CC: Ed Wright, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (233)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DEX)**

Analyst WRIGHT Date Completed 12/6/68
Approved by P. Latimer Reference Notebook _____
P. LATIMER, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE C/EC	Request Date 12/4/69
	Phone 067-3860
Sample Description POLLO POTABLE WATER FROM DESCENT TANK LINE, FLSS FITTING AFTER ADDITION FROM CSE UNIT CONTAINING 11 HG/L OF IODINE	Analysis Requested (Specification Required) IODINE CONCENTRATION AND STERILITY PER IF-SPEC-1
Location ALTITUDE CHAMBER R HSG3	

Received by GOENTHER Date 12/4/69 (6000) Log Number 012-12
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

IODINE = 2.0 HG/L (BEFORE FLUSHING OF LINE)

4.5 HG/L (AFTER FLUSHING OF LINE) -- (1000 ML)

STERILITY:

TOTAL BACTERIA = NEGATIVE

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
HSC CREW SYSTEMS DIVISION (ECB11)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DBK)

Analyst BUCK Date Completed 12/5/69
Approved by P. J. Jones Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANIONTE CFEC	Request Date 12/6/63 <hr/> Phone 067-3060
Sample Description POLLO POTABLE WATER FROM GROUND SUPPORT UNIT	Analysis Requested (Specification Required) IODINE CONCENTRATION PER PF-SPEC-1
Location ALTITUDE CHAMBER R HSCB	

Received by QUENTHER Date 12/6/63 (GLK) Log Number 0812-13
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

IODINE = 11 MC/L

cc: EO WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (333)
HSC CREW SYSTEMS DIVISION (ECB11)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)

Analyst DICK, J Date Completed 12/6/63
Approved by P. LAFORRE, HSC, ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Mayo CREW SYSTEMS ECK 11	Request Date 12/4/68
	Phone 867-8657
Sample Description LUNAR PADDLE DRINK GUN SERIAL NO. 3188	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by BUCK Date 12/4/68 (1000) Log Number GS12-14
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR GUN-FILTER ASSEMBLY
DOCUMENT NO. CSD-A-872, AS MODIFIED BY T.P.S.

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
MSC BIOMEDICAL SPECIALTIES BRANCH (JMS)
MSC CREW SYSTEMS DIVISION (EC311)
MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDR)

Analyst BUCK Date Completed 12/11/68
Approved by P. LaForte Reference Notebook _____
P. LAFORTE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code P. MAYO CREW SYSTEMS ECH 11	Request Date 12/4/68
	Phone 867-0057
Sample Description LOANER MODULE KIRK GUN, SERIAL NO. 0003 WITH FILTER	Analysis Requested (Specification Required) STERILIZING OF POLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by DOCK Date 12/4/68 Log Number 0012-15
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR GUN-FILTER ASSEMBLY
DOCUMENT NO. CSD-A-372, AS MODIFIED BY T.P.S.

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

CC: ED WRIGHT, LS-ENC-32
HSC BIOMEDICAL SPECIALTIES BRANCH (003)
HSC CREW SYSTEMS DIVISION (0011)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (00K)

Analyst DOCK Date Completed 12/11/68
Approved by P. LAFORET Reference Notebook _____
P. LAFORET, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date 12/4/68
	Phone 867-4000
Sample Description HIGH PURITY WATER FROM PLES UNIT	Analysis Requested (Specification Required) TOTAL SOLIDS
Location ECS BUILDING	

Received by BUCK Date 12/8/68 (17:0) Log Number 6812-16
Priority: Routine _____ (Due Date) A.S.A.P. _____ Emergency _____

ANALYSIS:

TOTAL SOLIDS = 1.0 mg/L

cc: JERRY ELIZEY, LS-DIG-1

Analyst BUCK TB Date Completed 12/12/68
Approved by P. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

WAGO
CREW SYSTEMS FCN 11

Request Date

12/5/68

Phone

067-9857

Sample Description

LOUAR MODULE DRINK CON,
SERIAL NO. 3100

Analysis Requested (Specification Required)

STERILIZING OF APOLLO WATER DISPENSER

Location

ENVIRONMENTAL HEALTH LABORATORY

Received by DOCK

Date 12/5/68

(0800)

Log Number

0017-17

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH CLEANING PROCEDURE FOR CUI-FILTER ASSEMBLY
DOCUMENT NO. CSD-1-872, AS MODIFIED BY I.P.S.

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

CC: ED WRIGHT, LS-ENG-52
HSC BIOMEDICAL SPECIALTIES BRANCH (003)
HSC CREW SYSTEMS DIVISION (LC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (00K)

Analyst

BUCK 713

Date Completed

12/11/68

Approved by

P. LaFosse

Reference Notebook

P. LaFOSSE, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code D. Ilyo CREW SYSTEMS ECK 11	Request Date 12/10/68
	Phone 867-8657
Sample Description L/H DRINK CUP SERIAL NO. 5103	Analysis Requested (Specification Required) STERILIZING OF /POLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by DOCK Date 12/10/68 (1050) Log Number 6012-23
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH TPS No. LH-4 PPE 014

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

PORT A-CH₂ = NEGATIVE

cc: Ed Wright, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (D03)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (D0K)

Analyst DOCK Date Completed 13 DECEMBER 1968
Approved by P. Latone Reference Notebook _____
P. LATONE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code S. Mayo CREW SYSTEMS LCH 11	Request Date 12/19/68
	Phone 867-0657
Sample Description L/II DRINK CUP, SERIAL #3153 FILTER #003	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by DDK Date 12/17/68 (1:30) Log Number 0512-24
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILIZING: PERFORMED IN ACCORDANCE WITH TPS No. 104-PPE-050

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

PORT A-CH₂ = NEGATIVE

**CC: Ed Wright, LS-DIG-32
HSC BIOCHEMICAL SPECIALTIES BRANCH (033)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)**

Analyst DDK Date Completed 18 DECEMBER 1968
Approved by P. LaFarge Reference Notebook _____
P. LaFARGE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester Organization, Mail Code R. HAYD CREW SYSTEMS, BOX 11	Request Date 12/5/68
	Phone 867-6657
Sample Description COMMODO MODULE DRINK DISPENSER SERIAL 22105 TND P/R 14-0104-03	Analysis Requested (Specification Required) STERILIZING OF APOLLO WATER DISPENSER
Location ENV. HEALTH ENGINEERING	

Received by DOCK Date 12/12/68 (1500) Log Number 8312-27
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

STERILIZING:

PERFORMED IN ACCORDANCE WITH TPS No. GFE/CSE 0004

STERILITY:

PORT A = 2 COLONIES

PORT B = NEGATIVE

PORT A-CH₂ = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DBS)
HSC CREW SYSTEMS DIVISION (EC511)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DCK)

Analyst DOCK Date Completed 13 DECEMBER 1968
Approved by P. Latore Reference Notebook _____
P. LATORE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester Organization, Mail Code R. 1110 CREW SYSTEMS BCK 11	Request Date 12/17/68
	Phone 067-6657
Sample Description LUNAR MODULE DRINK CUP 1545G FILTER 0001	Analysis Requested (Specification Required) STERILIZATION OF DRINK CUP CONDUCTED IN ACCORDANCE WITH TPS-CSD- LIB-33-7
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	
Received by <u>BUCK</u> Date <u>12/17/68</u> Log Number <u>6012-1/2</u>	
Priority: Routine <u>(Due Date)</u> A.S.A.P. <u></u> Emergency <u></u>	

ANALYSIS:

STERILITY:

PORT A: NEGATIVE

PORT B: NEGATIVE

PORT C: NEGATIVE

PORT A-CH₂: NEGATIVE

CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (D35)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DEK)

At <u>ANDERSON 72</u>	Date Completed <u>12/17/68</u>
Approved by <u>P. LaTorre</u>	Reference Notebook <u></u>
P. LaTorre, Dir., ENVIRONMENTAL HEALTH ENGINEERING	



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code R. Hvo CREW SYSTEMS ECK 11	Request Date 12/12/63
	Phone 867-3657
Sample Description C/H DRINK GUN 12125	Analysis Requested (Specification Required) STERILIZATION OF DRINK GUN
Location ENVIRONMENTAL HEALTH ENG. LAB	

Received by Date 12/12/63 (1300) Log Number 0012-52
Priority: Routine (Due Date) A.S.A.P. Emergency

ANALYSIS:

STERILIZATION:

CONDUCTED IN ACCORDANCE WITH TPS-CFF-GSE-057

RESULTS:

BACTERIAL SAMPLE (TOTAL) PORT A: NEGATIVE

BACTERIAL SAMPLE (TOTAL) PORT B: NEGATIVE

CC: EC VRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (003)
HSC CREW SYSTEMS DIVISION (EC511)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (006)

Analyst ANDERSON Date Completed 12/12/63
Approved by Reference Notebook
P. LaForte, HSE, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code 900 DANDERT, CAEC CAEC 300-11	Request Date 12/20/63
	Phone 867-2145
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location ALTITUDE CHAMBER R, MSCB	

Received by WRIGHT Date 12/20/63 (0000) Log Number 0012-54
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

IODINE = 10 MG/L

NOTE: THIS SOLUTION CONTAINED 11.0 MG/L 12/2/68.

CC: ED WRIGHT, LS-ENG-32

Analyst DUCK 113 Date Completed 12/20/63
Approved by [Signature] Reference Notebook _____
P. LATONKE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code BOB WRIGHT, CAEC CAEC 500-41	Request Date DECEMBER 20, 1960
	Phone 807-5182
Sample Description APOLLO POTABLE WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location ALTITUDE CHAMBER R, HSCB	

Received by WRIGHT Date 12/23/63 Log Number 6812-64
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

IODINE = 0.0 MG/L

CC: ED WRIGHT, LS-ENG-32

Analyst DERERY Date Completed JANUARY 7, 1962
Approved by P. Latorre Reference Notebook _____
P. LATORRE, HGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSANORTE CAEC	Request Date 12/23/63
Sample Description APOLLO POTABLE WATER LH-4 ASCENT TANK (FOR ENGINEERING EVALUATION)	Phone 867-0060
Location ALTITUDE CHAMBER R	Analysis Requested (Specification Required) PF SPEC-1 FOR ANALYSIS AS LISTED BELOW

Received by WRIGHT Date 12/23/63 Log Number 0312-66
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

PH = 6.0 @ 25°C
TOTAL SOLIDS = 0.6 MG/L
NON-VOLATILE SOLIDS = 0.6 MG/L
TOTAL FILTERABLE SOLIDS = 0.6 MG/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 0.65 UNITS
COLOR = UNDER 5 UNITS
PARTICULATE/500 ML
10-25 MICRONS = 4835
25-50 MICRONS = 990
50-100 MICRONS = 182
OVER 100 MICRONS = 78

IONIC SPECIES: MG/L

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.01	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	1.0	MG/L
LEAD	UNDER	0.3	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

THIS SAMPLE FAILS THE ANALYSIS REQUESTED FOR PARTICULATE.

cc: Ed Wright, LS-ENG-32

Analyst DEHERY 100 Date Completed JANUARY 9, 1964
Approved by P. LATORCE Reference Notebook _____
P. LATORCE, HON., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code D. JOLLY ZL-86	Request Date JANUARY 7, 1969
	Phone 667-5182
Sample Description 7 POLLO POTABLE WATER C3H 105 GSE	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3
Location ALTITUDE CHAMBER L	

Received by DEHERY Date _____ Log Number 6201-15
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

PH = 6.1 @ 25°C

ELECTRICAL CONDUCTIVITY = .21 MICROMHOS PER CM @ 25°C

PARTICULATE/500 ML

SAMPLE PORT

10-25 MICRONS = 2020
25-50 MICRONS = 120
50-100 MICRONS = 30
OVER 100 MICRONS = 10

DOWNSTREAM OF .22 MICRON FILTER

10-25 MICRONS = 1170
25-50 MICRONS = 109
50-100 MICRONS = 21
OVER 100 MICRONS = 16

CC: Ed WRIGHT, LS-ENG-32

Analyst DEHERY *h/pd* Date Completed JANUARY 8, 1969
Approved by *P. Latorre* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

D. JOLLY, NAR
ZK-06

Request Date

JANUARY 8, 1969

Phone

867-5182

Sample Description

APOLLO POTABLE WATER
CSM 106, CSE

Analysis Requested (Specification Required)

PF SPEC-1 TO TEST POINT 5
FINAL REPORT

Location

ALTITUDE CHAMBER 1, MSCB

Received by

QUENTHER

Date

Log Number

001-14

Priority:

Routine

A.S.A.P.

Emergency

(Due Date)

ANALYSIS:

ELECTRICAL CONDUCTIVITY = 0.4 MICRONHO/CM @ 25°C

PH = 6.8 @ 25°C

SURFACE TENSION = 69.2 DYNES/CM @ 20°C

TOTAL SOLIDS = 0.4 MG/L

NON-VOLATILE SOLIDS = 0.4 MG/L

TOTAL FILTERABLE SOLIDS = NONE DETECTED

TASTE AND ODOR - NONE AT THRESHOLD #3 @ 45°C

TURBIDITY = 0.00 UNITS

COLOR = UNDER 5 UNITS

PARTICULATE/500 ML

0-10 MICRONS = PASSES

10-25 MICRONS = 314

25-50 MICRONS = 83

50-100 MICRONS = 26

OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	1.0	MG/L
IRON	UNDER	0.3	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

STERILITY:

TOTAL BACTERIA = TOO NUMEROUS
TO COUNT

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED
ANALYSIS...FOR SURFACE TENSION.

CC: ED WRIGHT, LS-ENC-32

HSC BIOMEDICAL SPECIALTIES BRANCH (DB3)

HSC CREW SYSTEMS DIVISION (FC311)

HSC LAUNCH SITE MEDICAL OPS. BRANCH (DBK)

NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

Analyst

DECHERY

Date Completed

JANUARY 17, 1969

Approved by

P. LAFORCE, NAR., ENVIRONMENTAL HEALTH ENGINEERING

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code C. JOLLY HPR ZK-25	Request Date JANUARY 8, 1969
	Phone 867-5182
Sample Description POLLO POTABLE WATER CSM 106, CSE, APOLLO 10	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3 PRELIMINARY REPORT FINAL REPORT TO FOLLOW
Location ALTITUDE CHAMBER L, HSCB	

Received by CUENTHER Date 1/11/69 Log Number 6561-14
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

pH = 6.8

ELECTRICAL CONDUCTIVITY = 0.4 MICROMHOS

PARTICULATE/500 ML

0-10 MICRONS = PASSES
10-25 MICRONS = 314
25-50 MICRONS = 89
50-100 MICRONS = 26
OVER 100 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
NORTH AMERICAN ROCKWELL, COMNEY, CALIFORNIA
C. R. TONEY, BEN 5200

Analyst RECHERY Date Completed JANUARY 10, 1969
Approved by DR. L. LORRIS, HON., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

D. JOLLY HAR
7K-95

Request Date

JANUARY 9, 1969

Phone

867-5132

Sample Description

/POLLO POTABLE WATER
WASTE TANK S/C 103, /POLLO 10.

Analysis Requested (Specification Required)

PF SPEC-1 FOR PH, TOTAL SOLIDS,
AND PARTICULATE

Location

ALTITUDE CHAMBER L, HSOB

Received by ANDERSON, BOCK

Date 1/9/69

Log Number 6701-13

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

PH = 6.6

TOTAL SOLIDS = NONE DETECTED

PARTICULATE/500 ML

0-10 MICRONS = PASSES
10-25 MICRONS = 935
25-50 MICRONS = 200
50-100 MICRONS = 31
OVER 100 MICRONS = 15

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32

Analyst

DEHERY

Date Completed

JANUARY 15, 1969

Approved by

Reference Notebook

P. LATOURE, HON., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



18-1

Requestor, Organization, Mail Code V. J. FOTCHIEVSKI MK-8	Request Date JANUARY 8, 1961
	Phone 867-5182
Sample Description SPOLLO POTABLE WATER S/C 150, SPOLLO 1, HOT WATER TOST	Analysis Requested (Specification Required) PF SPEC-1 FOR STERILITY
Location ALTITUDE CLIMBER L, HCSB	

Received by BUCK/ROBINSON Date 1-8-61 (HST) Log Number 6-11-70
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

STERILITY:

TOTAL BACTERIA = 17 COLONIES/150 ML

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

ED WRIGHT, LS-ENG-32
CC: HSC BIOMEDICAL SPECIALTIES BRANCH (BBS)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (LSM)
NORTH AMERICAN ROCKWELL, DONNEY, CALIFORNIA
HSC CREW SYSTEMS DIVISION (HCS11)

Analyst DEWLEY Date Completed JANUARY 20, 1961
Approved by [Signature] Reference Notebook _____
V. L. TORRE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requester, Organization, Mail Code W. J. FOTONILEWSKI, NAR ZA-35	Request Date 1/8/69
Sample Description APOLLO POTABLE WATER FROM DRINK CON, S/C 100 / POLLO 10 DRINK CON SH 21.02	Phone 867-5182
Location ALTITUDE CHAMBER L, HSCB	Analysis Requested (Specification Required) FF SPEC-1 TO TEST POINT 4 IMMEDIATELY FOLLOWING FINAL SERVICING OF SPACECRAFT SYSTEMS

Received by ROCK. ANDERSON Date 1/8/69 Log Number 8801-19
Priority: Routine _____ A.S.A.F. _____ Emergency _____
(Due Date)

ANALYSES:

PH = 6.5 @ 25°C
TOTAL SOLIDS = 0.6 MG/L
NON-VOLATILE SOLIDS = 0.6 MG/L
TOTAL FILTERABLE SOLIDS = NONE DETECTED
TASTE AND COOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 0.49 UNITS
COLOR = UNDER 5 UNITS
PARTICULATE/500 ML
0-10 MICRONS = PASSES
10-25 MICRONS = 1275
25-50 MICRONS = 110
50-100 MICRONS = 27
OVER 100 MICRONS = 22

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	1.0	MG/L
IRON	UNDER	0.3	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

STERILITY:

TOTAL BACTERIA = 7 COLONIES/150 ML
COLIFORM COUNT = NEGATIVE
/MACROBIC /ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED
ANALYSIS.

cc: ED WRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DD3)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
NORTH AMERICAN ROCKWELL, COMNEY, CALIFORNIA

Analyst GENERT 4109 Date Completed JANUARY 15, 1969
Approved by P. Latorre Reference Notebook _____
P. LATORRE, HSC, ENVIRONMENTAL HEALTH ENGINEERING

COPY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. McH. ELY, HAR ZK-24	Request Date JANUARY 9, 1969
Sample Description HIGH PURITY WATER FROM WICK WETTER UNIT - 152	Analysis Requested (Specification Required) CHEMICAL ANALYSIS TO C-20A PARTICULATE TO MA0610-017D
Location ALTITUDE CHAMBER L, MSOB	

Received by WRIGHT Date 1/9/69 (1100) Log Number 6901-21
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

CONDUCTIVITY = 0.43 MICROMHOS/CM @ 25°C

PH = 6.1

NON-VOLATILE RESIDUE = .3 MG/500 ML

HALIDES UNDER 1.0 PPM

SURFACE TENSION = 72.8 DYNES/CM

PARTICULATE/500 ML

160-200 MICRONS = 4

200-250 MICRONS = 1

OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32

Analyst BUCK Date Completed JANUARY 9, 1969
Approved by P. LaTorre Reference Notebook _____
P. LaTorre, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code U. JULY, NAR 7K-36	Request Date JANUARY 15, 1969
	Phone 887-5132
Sample Description L/H CTR DISPENSER WITH FILTER (113) LH-304103-3	Analysis Requested (Specification Required) STERILIZATION OF DISPENSER PER TPS-10-115-FCS-023 AND CSO-7-072
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by ANDERSON Date 1/15/69 (1030 HR) Log Number 113
Priority: Routine _____ A.S.A.P. _____ Emergency _____
(Due Date)

ANALYSIS:

RESULTS FROM PRE-STERILIZATION SAMPLES: (ORGANISMS PER 100 ML)

PORT A: NEGATIVE

PORT B: 60,000

THRU FILTER ONLY: 600

THRU CTR DISCONNECT ONLY: NEGATIVE

FINAL RESULTS--FOLLOWING STERILIZATION

PORT A: NEGATIVE

PORT B: NEGATIVE

PORT C: NEGATIVE

CH₂ PORT A: NEGATIVE

cc: Ed VRIGHT, LS-ENG-32
HSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
HSC CREW SYSTEMS DIVISION (EC311)
HSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DDK)
JOE JOHNSON, CCK-11

Analyst ANDERSON Date Completed JANUARY 17, 1969
Approved by [Signature] Reference Notebook _____
P. LATOUCHE, HSC, ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



4871

Requestor, Organization, Mail Code J. THOMPSON, HAR ZK-36	Request Date JANUARY 16, 1969
	Phone 867-5102
Sample Description APOLLO POTABLE WATER FROM FUEL CELL	Analysis Requested (Specification Required) pH AND CONDUCTIVITY
Location ALTITUDE CHAMBER L	

Received by DEHERY Date 1-16-69 (2300 HRS) Log Number C-101-47
Priority: Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS:

pH = 6.7 @ 25°C

ELECTRICAL CONDUCTIVITY = 2.4 MICROMHO/CM @ 25°C

cc: ED WRIGHT, LS-ENG-32

Analyst DEHERY 11/17/69 Date Completed JANUARY 17, 1969
Approved by P. LAFORCE Reference Notebook _____
P. LAFORCE, HGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

B. JOLLY, RAR

ZK-57

Request Date

JANUARY 17, 1969

Phone

867-5182

Sample Description

7 POLLO POTABLE WATER FROM CH DRINK
CEN CEN 100, 14 HOURS AFTER BACKUP
CEN ALTITUDE CHAMBER 100, 1 POLLO 10
POST FLIGHT SAMPLE

Analysis Requested (Specification Required)

PF SPEC-1 TO TEST POINT 4

Location

ALTITUDE CHAMBER L, HSCB

Received by

DEWEY, TUCKER

Date

1/18/69 (0570)

Log Number

6001-00

Priority:

Routine

A.S.A.P.

Emergency

(Due Date)

ANALYSIS:

PH = 6.8 @ 25°C

TOTAL SOLIDS = 1.6 MG/L

NON-VOLATILE SOLIDS = 1.6 MG/L

TOTAL FILTERABLE SOLIDS = NONE DETECTED

TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C

TURBIDITY = 1.3 UNITS

COLOR = UNDER 5 UNITS

PARTICULATE/500 ML

* 0-10 MICRONS = SURFACE OF FILTER OBTAINED

10-25 MICRONS = WITH FINE GOLD POWDER. RE-

25-50 MICRONS = NUMBER OF COUNT COULD NOT

50-100 MICRONS = BE ACCURATELY ACCOMPLISHED.

OVER 100 MICRONS =

*THIS MATERIAL HAS THE SAME APPEARANCE AS THAT
REPORTED ON SAMPLES 6000-65 AND 6000-66 WHICH
HAS BEEN IDENTIFIED AS METALLIC DIALKYLDITHIO-
CARBAMATES.

CC: ED WRIGHT, LS-ENG-32

HSC BIOMEDICAL SPECIALTIES BRANCH (033)

HSC CREW SYSTEMS DIVISION (EC211)

HSC LAUNCH SITE MEDICAL OPS. BRANCH (05K)

NORTH AMERICAN SCORWELL, DREDFLY, CALIFORNIA

Analyst

DEWEY

Date Completed

JANUARY 23, 1969

Approved by

P. L. L. L.

Reference Notebook

P. LATONDE, HSC, ENVIRONMENTAL HEALTH ENGINEERING

IONIC SPECIES: MG/L

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	1.0	MG/L
IRON	UNDER	0.3	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.013	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	5.0	MG/L

STERILITY:

*TOTAL BACTERIA = TOO NUMEROUS
TO COUNT

COLIFORM COUNT = NEGATIVE

AEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

*THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR STERILITY



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

U. SOLLY, RSR
7K-26

Request Date

JANUARY 17, 1969

Phone

667-5182

Sample Description

1 POLLO POTABLE WATER FROM LI DRINK
CUB CAN 10, 14 HOURS AFTER BACK-UP
CUB ALTITUDE CHANGES 100, 1 POLLO 10
POST FLIGHT SAMPLE

Analysis Requested (Specification Required)

FF SPEC-1 TO TEST POINT 4

Location

ALTITUDE CHANGES L, RPD

Received by

GENEY, GENTHER

Date

1/19/69 (553)

Log Number

Priority:

Routine

A.S.A.P.

Emergency

(Due Date)

ANALYSIS:

pH = 5.4 @ 25°C

TOTAL SOLIDS = 1.4 mg/L

NON-VOLATILE SOLIDS = 1.4 mg/L

TOTAL FILTERABLE SOLIDS = NONE DETECTED

TASTE AND ODOR = NONE (THRESHOLD 3 @ 45°C)

TURBIDITY = 0.45 UNITS

COLOR = UNDER 5 UNITS

PARTICULATE/500 ML

0-10 MICRONS = PASSES

10-25 MICRONS = 426

25-50 MICRONS = 31

50-100 MICRONS = 14

OVER 100 MICRONS = 7

IONIC SPECIES: mg/L

CADMIUM UNDER 0.01 mg/L

CHROMIUM UNDER 0.05 mg/L

COPPER UNDER 1.0 mg/L

IRON UNDER 0.5 mg/L

LEAD UNDER 0.05 mg/L

MANGANESE UNDER 0.05 mg/L

MERCURY UNDER 0.013 mg/L

NICKEL UNDER 0.05 mg/L

SILVER UNDER 0.05 mg/L

ZINC UNDER 5.0 mg/L

STERILITY:

*TOTAL BACTERIA = 100 COLONIES/150 ML

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

*THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR STERILITY.

CC: ED WIGHT, LS-ENG-32

HSC BIOMEDICAL SPECIALTIES BRANCH (035)

HSC CUB SYSTEMS DIVISION (EC311)

HSC LAUNCH SITE MEDICAL OPS. BRANCH (LS)

NORTH AMERICAN ROCKWELL, COMNEY, CALIFORNIA

Analyst

GENEY

Date Completed

JANUARY 23, 1969

Approved by

F. LATOSSE, RSR, ENVIRONMENTAL HEALTH ENGINEERING

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code

D. JOLLY, NTR
7K-35

Request Date

JANUARY 17, 1969

Phone

067-5102

Sample Description

APOLLO POTABLE WATER FROM HOT WATER
PORT 14 HOURS AFTER BACKUP CREW
ALTITUDE CHAMBER RUN CSM 106, /POLLO
16, POST FLIGHT SAMPLE

Analysis Requested (Specification Required)

PF SPEC-1 TO TEST POINT 4

Location

ALTITUDE CHAMBER L, H003

Received by SCHEERY, COUNTRY

Date 1/18/69 (0550)

Log Number 0001-10

Priority: Routine

(Due Date)

A.S.A.P.

Emergency

ANALYSIS:

pH = 7.4 @ 25°C

TOTAL SOLIDS = 0.6 mg/L

TASTE AND ODOR = NONE AT THRESHOLD @ 3 @ 45°C

TURBIDITY = 1.00 UNITS

COLOR = UNDER 5 UNITS

IONIC SPECIES: mg/L

CADMIUM	UNDER	0.01	mg/L
CHROMIUM	UNDER	0.05	mg/L
COPPER	UNDER	1.0	mg/L
IRON	UNDER	0.3	mg/L
LEAD	UNDER	0.05	mg/L
MANGANESE	UNDER	0.05	mg/L
MERCURY	UNDER	0.013	mg/L
*NICKEL	EQUALS	0.2	mg/L
SILVER	UNDER	0.05	mg/L
ZINC	UNDER	5.0	mg/L

STERILITY:

*TOTAL BACTERIA = TOO NUMEROUS TO
COUNT

COLIFORM COUNT = NEGATIVE

ANAEROBIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

*THIS REPORT FAILS THE REQUESTED
ANALYSIS, STERILITY AND NICKEL

CC: En Wright, LS-ENG-32

HSC BIOMEDICAL SPECIALTIES BRANCH (033)

HSC CREW SYSTEMS DIVISION (00311)

HSC LAUNCH SITE MEDICAL OPS. BRANCH (00K)

NORTH AMERICAN ROCKWELL, GOMERY, CALIFORNIA

Analyst SCHEERY

Date Completed JANUARY 23, 1969

Approved by P. LATORNO

Reference Notebook

P. LATORNO, HSC, ENVIRONMENTAL HEALTH ENGINEERING